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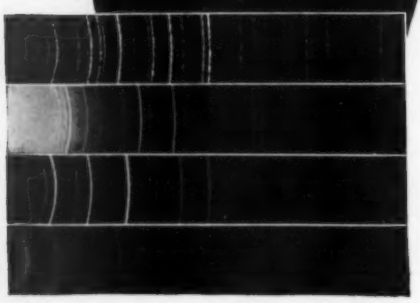

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THE Finish Line

REFRIGERATOR JAUNDICE — In the early days of Porcelain Enamel Institute advertising a phrase was coined to describe the unsightly marks that often appeared around refrigerator door handles and door edges. We referred to "Ice Box Eczema."

The necessity for continued use of pre-war refrigerators, many of which do not have porcelain enameled exteriors, brings a need for a term to describe their appearance — "We submit "Refrigerator Jaundice."

We sat in the kitchen with a friend the other evening and made a few observations. The house had been purchased by the present owner about four years ago — a house that was then about twelve to fifteen years old. Now — everything in the kitchen is new except the sink. This very necessary piece of kitchen equipment, while lacking in the modern appearance of the other appliances, is still serviceable and good looking. It was apparently built "BAR" (before acid resisting) as the bowl is etched and gives the only indication of its many years of service. Otherwise it is in good, useable condition in spite of the fact that, as I learned, it is a customary habit of the owner to pound the ice bag on the drain board with a carpenter's hammer.

More porcelain enamel

The range and porcelain enameled top for the cabinet-base table were as white and glistening as the day they were purchased. Thinking this a good opportunity to get in a lick or two for porcelain enamel, we opened the subject with a few compliments for the finish. Said Mrs. "B"., "Yes, it's a fine finish. I like it on everything but my refrigerator. As you can see, it is wearing off around the door handle and at the top of the door — and what's more, it is gradually changing color."

The next step was to open the door and show this housewife that the inside of the refrigerator was as glistening white as the day she bought it — then to explain the fact that the exterior of her refrigerator was *not* porcelain enamel. "But," says she, "the salesman didn't tell us that."

We explained that there would possibly have been a $20.00 or $30.00 difference in price for the porcelain enameled exterior. "But," she insisted, "we would have gladly paid it had the salesman explained the difference."

The same old story

Here we are again. There's certainly nothing new about this story. We mention it merely in an attempt to again stress the irony of a situation where the finest refrigerator finish ever developed lost the greater part of a valuable market (refrigerator exteriors) through lack of the proper education of those who sell appliances.

The reason it is important to consider this *now* is that the average consumer is becoming more quality conscious and more inclined to investigate the things that make an appliance good looking and practical than ever before.

In this issue of *Finish* both Elizabeth Bothwell ("Will women go back to the Range?") and Ernest Dench ("The home appliance picture in post-war Britain") stress the awakening of appliance users to a new realization of quality and dependability, brought on by the necessity for continued use of pre-war products — "Their patience is wearing thin . . . "

A repetition

Again we say, there is a real opportunity for the manufacturer who *first* introduces a "standard" refrigerator of popular size with porcelain enameled exterior, and prices it with a differential to cover only a proved difference in manufacturing cost.

The development of an all-porcelain "standard" line, backed by sound promotion, will give this manufacturer the lead in a trend that must inevitably come if the refrigerator cabinet is to keep pace with mechanical improvements.

Dana Chase

Editor and Publisher

The home appliance picture

in post-war Britain

based on a study of experiences, plans and opinions of manufacturers, utilities and users

By Ernest A. Dench • HO-HO-KUS, NEW JERSEY

finish British home appliance manufacturers may have their hands tied, but that does not mean they are not using them, even if movements are restricted.

There is, in fact, quite a lot of post-war planning going on. Most of this planning has a practical down-to-earth foundation, the fruits of which should be evident in due course.

The trends already evident will prove suggestive to American home appliance manufacturers, whether or not they are British export-minded; for some of the ideas have American adaptive possibilities.

Pre-war drawbacks

In a normal year — and 1938 may be considered such — one large British utility was responsible for the installation of over 700,000 home appliances. In addition, its servicing crew examined some 1,500,000 home appliances already in use.

Naturally, such an organization has a tremendous amount at stake in the selling and servicing of *reliable* home appliances. The costly pre-war practice was too great a readiness by British home appliance manufacturers to introduce new models which differed but slightly from those already on the market. Attention was paid more to styling than mechanical improvements. Because of keen competitive conditions, many new models were launched without adequate mechanical tests under varied conditions. The resulting defects and failures, according to the reporting utility, were in the following order:

1. The use of unsuitable or inferior materials. 2. Poor mechanical treatment. 3. Careless assembly. 4. Unsatisfactory design. 5. Local conditions. 6. Curiosity and interference on the part of the user. 7. Faulty installation, use or maintenance.

Opinions will differ as to what constitutes "fair wear and tear", but this utility contends that the basic cause of home appliance defects is the manufacturer and his designing and production men. This utility has a testing department employing all the recognized laboratory methods, plus interviews with its own servicing and selling crews, and representative groups of consumers. Whenever this utility has a "bone to pick" with a home appliance manufacturer, the latter receives a defect report.

The severe strain of prolonged war service

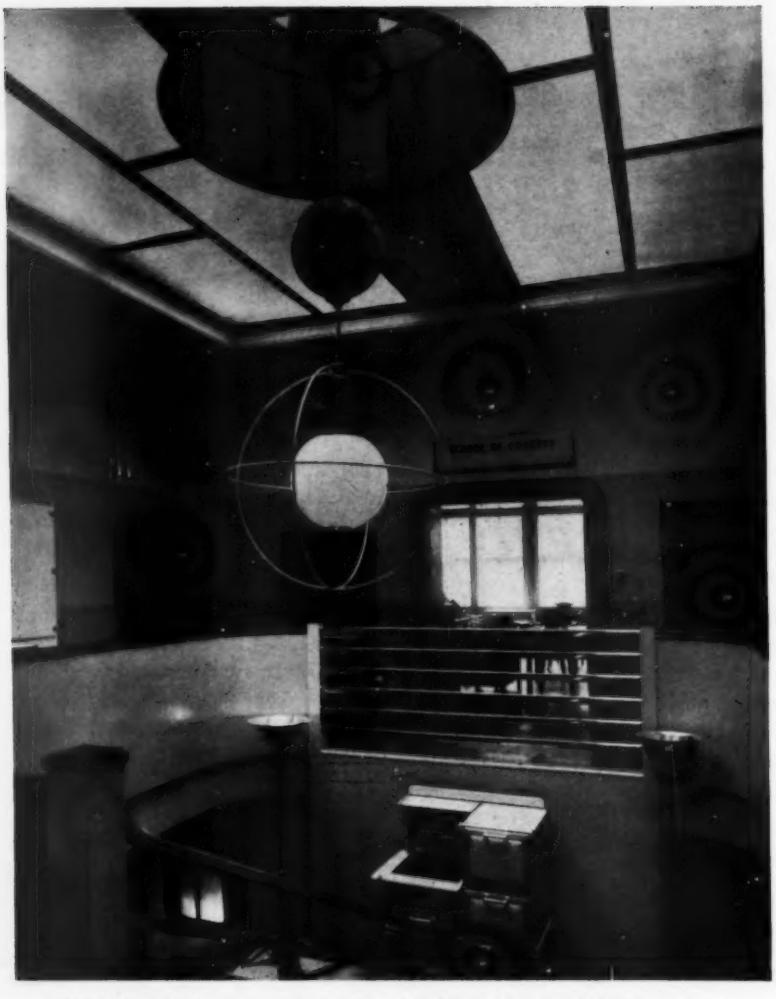
The amount of British wartime servicing of home appliances has been (and is) phenomenal. Not all of this has been normal or prolonged wear and tear. Part of the blame falls on designers of certain pre-war home appliances. The fact remains that women, even if surrounded by the tools of a mechanized war, and of whom thousands are working in war production plants, STILL are not mechanical-minded. The average woman *continues* to regard a domestic machine as something of super strength, utterly devoid of feeling. She gives it rough handling. The difference between a domestic appliance and an industrial appliance is that the latter comes under the maintenance and operation of a man accustomed to machinery — and who has made its care his life work. He knows what it can and what it cannot do. The plant cannot afford a temporary shut-down because of a machine or a battery of them going out of commission. On the other hand, in the home when the ironer, refrigerator, washing machine or vacuum cleaner goes on the blink, it becomes a temporary inconvenience—and no more.

The pre-war British designer, with certain exceptions, made no distinction between the two extremes in consumers. This has resulted in a much heavier volume of home appliance servicing in proportion to industrial appliance servicing.

Preference for standardized models

We mentioned that the housewife is not mechanically-minded, even though she works part or full time in a war production plant, where she is engaged in some mechanical processing operation. On the other hand, this austere, ultra-practical industrial environment is influencing her post-war buying judgment in home appliances. She finds herself surrounded by mechanized equipment primarily made for efficient utilization. The contrast is making her scornful of certain pre-war domestic appliances obviously "prettied-up" at higher prices to make a hit with the "Keeping up with the Joneses" type of suburbanite. Stylish new models with superficial mechanical improvements appeared too often during the nineteen-thirties. Her post-war preference —overwhelmingly so—is for a plain but strong and serviceable model. She is convinced by her war work experience that it can be produced on a mass production basis within price *reach* of more British women than if, say, the maker spreads his production and distribution over a host of models.

This is more than just chit-chat by



This view of the staircase joining the first and second floors at Easiwork, Ltd., London, England, shows how corners and landing alcoves are used to display kitchen cabinets and cook stoves.

housewives over the garden fence or in the war plant restroom. As early as February, 1941, the Electrical Association for Women, the president of which is the Dowager Lady Swathling, undertook a post-war planning project. Since then the association has painstakingly and thoroughly collected one million opinions on post-war education, housing and electrical domestic equipment. Recently the association issued an Interim Report, from which we have digested the findings as given here.

Consumers on the rampage!

Are British home appliance manufacturers doing anything more than dishing out vague or evasive answers to these rumblings from consumers? Thus far consumers are on the offensive, with manufacturers on the defensive — a rare relationship with "still-born" merchandise, and indicative of the extreme course the British seller's market has taken. But British housewives have had to make things do since late in 1939 — two and a quarter years longer than American housewives. Their patience is wearing thin, particularly since the combing-out for military service of so many experienced appliance servicing mechanics. The same reaction is likely to take place among American housewives if the war lasts much longer and the going gets any tougher.

Several British home appliance makers have started to woo the consumer, and, in general, try to remain in her good graces. They are "patting her on the back", and saying, "Yes, madam, YOU know what YOU want in post-war home appliances. All WE know is HOW to manufacture them. Let us have the benefit of your ideas, and if they have practicable application, we will use them — and be grateful to YOU for your thoughtful cooperation."

The method of approach chosen by one British home appliance manufacturer is to contribute open letters to the correspondence columns of specified journals in the hospital, school, nursing and allied institutional fields. Each letter, which contains no advertising references, gives several thought-provoking questions on the subject of household appliances and kitchen aids. The little campaign is producing results in connection with this manufacturer's post-war planning. For example, a hospital catering supervisor suggests a dish washing machine which cleans itself and is less complicated to operate than present models. Another suggestion is for a sandwich spreader which operates on the principle of a printing press.

A possible reason why there is considerable reluctance on the part of most manufacturers to invite suggestions for improved or new home appliance models from consumers, is the probability of a flood of technically-impracticable suggestions. Every woman whose idea is turned down feels hurt — and this makes, naturally, for bad friends. On the other hand, if the manufacturer does NOTHING, many a woman will be mad just the same, so the manufacturer is caught between two strong fires.

Is there a middle ground of approach — a compromise one? I think so. The most efficient and most sought-after home appilance models in the post-war period will undoubtedly be based on a pot-pourri of ideas from consumers. Take, for example, the electric refrigerator. Mrs. Brown may contribute corkingly good ideas for an improved door. Mrs. Smith may suggest a different tray arrangement. Mrs. Jones thinks the shelving could be improved. Mrs. Newman has a temperature adjustment arrangement the engineer may

These two small advertisements representing advertising in England were clipped from a women's publication. Notice the Frigidaire "larder" and the Belling electric "fires" and "cookers."

not have thought of. Suppose, then, suggested improvements for the four features mentioned come in from about 200 women, in about equal proportions. The engineer and designer set about producing a composite model, using an idea, or part of one, or an adaptation of it, from the most worth-while of those submitted.

One British firm to launch a suggestions contest along these lines is getting results beyond its fondest expectations. Consumers are informed that the contest is for the purpose of—

1. *Obtaining a bird's eye view of the general opinion of users as to the type of improvements necessary and desirable in post-war models.*
2. *Enabling users to suggest ideas, even though they may lack the necessary engineering training or inventive ability to develop such ideas themselves in a practical form.*

While some of the ideas may be impracticable in themselves, it is felt that by taking parts from different contributions and combining them, far-reaching and substantial improvements will ultimately result.

Consumers rarin' to express themselves on paper do not need much,

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Porcelain enamel is in evidence in this view of the "Blue and Gold" kitchen at Easiwork Exhibition of Modern Housekeeping, Easiwork, Ltd., London, England.

Goodyear pre-tests store front materials

Left: Close-up view of porcelain enameled store front section of Goodyear's field laboratory at Revenna, Ohio.

Below: This view of the field laboratory installation includes sections made of structural glass, pressed wood, porcelain enamel, and a sample store front made up of a store front sign.

THE Goodyear Tire and Rubber Company of Akron, Ohio, have for many years been extensive users of porcelain enamel for identification and advertising signs. In recent years their interest has included its use for architectural purposes and a thorough study has been made of its possibilities.

The photographs reproduced here are of the experimental "store front laboratory" at Ravenna, Ohio, used by Goodyear to obtain installation data on various types of materials. The laboratory has been used for experimentation with color and design, to conduct aging tests on the various materials under study and analyze the maintenance needs for various materials and designs. The close-up view of the porcelain enameled store front section at Goodyear's field laboratory shows how this sectional front provides an opportunity to experiment with third dimension letters, window valances and display window areas in addition to the checking of structural and surfacing materials.

With a field laboratory of this type it is possible for interested executives to visit the installation from time to time, and form their own conclusions concerning the properties and qualifications of the various materials under test.

It is reported that after one such visit by a group of Goodyear executives the resulting sentiment of the majority definitely favored the porcelain enameled installation. This could very logically have had a direct bearing on the company's later use of porcelain enamel for important store front installations and may also logically influence projected plans.

This field laboratory idea is unquestionably sound for companies whose building programs are of sufficient size to warrant similar experimentation.

The future is bright

for west coast enameling

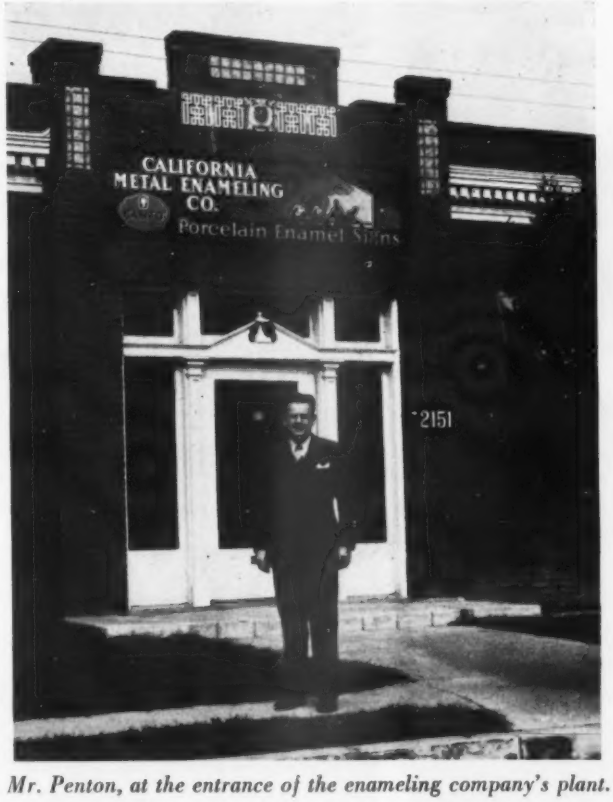
By Gilbert C. Close • LOS ANGELES CORRESPONDENT

finish

You come upon the place unexpectedly, aloof from the confusion of the factory district that surrounds it, neat as a twenty-two bullet, and just as purposeful. Clipped lawn, a few trees to relieve the monotony, an eye-catching sign that's a product from their own furnaces . . . That's the California Metal Enameling Company.

A short talk with J. T. (Joe) Penton, president of the company and a vice president of P.E.I., cements that first impression. Mr. Penton has been a California enameler since 1918, and is still going strong.

The answer to my inquiry relative to postwar enameling on the west coast is direct and forceful — "The west coast enameling industry increased 100-times between 1911 and Pearl Harbor. That growth will continue. We're backing the future by doubling our facilities as soon as priorities will permit. When we complete our expansion program, we'll have a half-million dollar plant to work with."



Mr. Penton, at the entrance of the enameling company's plant.

Somehow, before you enter the substantial front office, you get a feeling that here is a concern that deals in values rather than ambiguous claims and pinch-penny business policies.

Prior to the war, California Metal Enameling Company was engaged almost exclusively in the production of porcelain enameled signs. Plans for the future, however, include jobbing work.

Editor's Note:

The West Coast has made rapid strides industrially during the war, and it is the opinion of many that this section of the United States will assume a far more important industrial role after the war than it played during pre-war years. It is expected that porcelain enameling will form a part of this expanded activity.

In the interest of keeping Finish readers posted on a national basis we have arranged for adequate coverage of West Coast activity.

Elsa Gidlow, whose reports and feature stories have been used by your editor for a number of years, will cover the San Francisco area.

G. C. Close will write on engineering subjects and cover plants and news of the Los Angeles area. In the accompanying brief article Mr. Close gives us the opinions of one enamel plant president as a prelude.

Is there a future in job enameling?

Mr. Penton expressed grave advice to the industry when asked if jobbing contracts were imperiled by large manufacturers installing their own enameling equipment.

"That danger is very real," he admitted, "but can be largely offset by improved customer service. Jobbing contracts hinge on doing the work better, cheaper, and faster than the manufacturers can do it themselves. Enameling is no longer a mysterious process. We cannot continue to hide behind a 'secret formula' and wait for business to seek us out."

Mr. Penton is firm in his belief that passing of the 'secret formula' stage is a healthy sign for the indus-

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SNAPSHOTS OF

(February enamelers meeting

FINISHFOTOS

1. "Lee" Huyck of Huyck Construction Co., Chicago — 2. "Chuck" Field of Chicago Vitreous — 3. Arol Hall of Globe American, Kokomo — 4. Harold Gray, Vitreous Steel Products, Nappanee — 5. George Arras of Quadrangle — 6. "Tom" Linden of Chicago Vit — 7. Petersen, English and Svec of the University of Illinois, Walker & Downing agency and Industrial Publications respectively — 8. Meacham of Chicago Vit and Sam Frantz, the FerroFilter man — 9. Fred Sutphen of Armco and Henry Oesterle of Roesch Enamel Range, Belleville — 10. Ralph Foraker of Pemco and Art Lander of Cribben and Sexton.

CHICAGO CLUB

reported in March Finish)

FINISHFOTOS

11. "Rud" Porter of Carnegie-Illinois Steel and Wayne Deringer of A. O. Smith Corp. — 12. "Ick" Rollins and Tom Stoneburner of McCray Refrigerator, Kendallville — 13. "Don" Ross and Keith Conley of Northwest Chemical — 14. George Sirovy, "Eddie" Czolgos, Harry Sirovy, Joseph Mudra and "Vic" Rosen of Century Vitreous — 15. "Frank" Wortley of American Rolling Mill — 16. Prince Hayles of Ingersoll Steel & Disc — 17. Oscar Colletti of Cribben & Sexton — 18. Paul Gerdes of Lindemann & Hoverson, Milwaukee — 19. "Jack" Lawler of Allied Industrial — 20. "Bill" Donaldson of Geo. D. Roper, Rockford.

Cinderella was a glamour girl

compared to porcelain top tables

A few candid comments from an editor whose business is furniture

By Jay Gary • EDITOR, FURNITURE AGE

FOR more years than I like to remember, the public schools of America have been teaching art, and today even the sons and daughters of our World War I "Hunkies" know beauty when they see it in furniture, clothes, automobiles and even breakfast sets.

But, strange to relate, most breakfast set manufacturers must have missed the art classes, because the designs they select for porcelain enameled top tables look like something brought over from Poland or Greenland, they never could have originated in a normal modern American brain.

In the furniture business we call them "Polish Renaissance" or "Borax" designs. The chief objective seems to be to use as much hardwood lumber as possible and distort this good wood into shapes that only its maker could love. Visiting the average breakfast set exhibit at a furniture market is like seeing pink elephants the morning after. You actually shudder if you know anything about art.

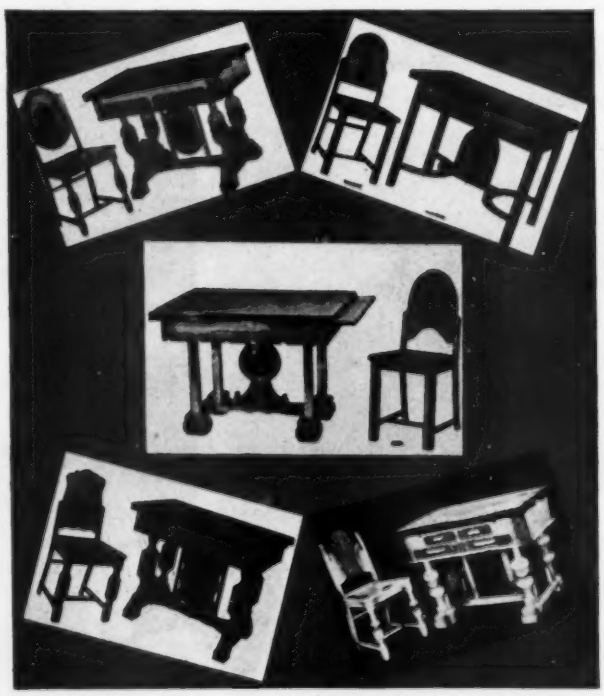
Porcelain enamel is a splendid material for kitchen and breakfast table tops, but it has received a terrific black eye with the average American housewife because of the atrocious tables on which it usually appears. Most modern women wouldn't give such a table houseroom, let alone pay good money for it.

All of which sounds destructive and cynical, but isn't intended that way at all. Instead, it is said because it needs to be said in order to awaken the smug porcelain enamel industry to the post-war opportunity it will miss if it can't grab the ball now and make an end run with it instead of letting a lot of small table manufacturers fumble it all over the lot.

This condition can be rectified in one or two years at reasonable cost. Porcelain enameled tops will continue to lose favor unless something is done — and soon. Remember, it's a table, not a top, a woman buys.

The most logical remedy for the curse of bad design is good design. As long as individual manufacturers are encouraged to place porcelain enameled tops on anything they please, bad design will dominate. But if the porcelain enamel industry — which is big and fat enough to carry out this program — would offer $5,000 in prizes for the twelve best designs for breakfast sets with porcelain enameled tops, I believe the best designing brains in the country would compete and the result would be some of the sweetest breakfast sets any modern housewife ever laid eyes on, making her present breakfast set so obsolete that she would want a new one just as soon as it became available.

If breakfast set manufacturers after the war are going back to "Polish Renaissance," why would she ever change, because, isn't porcelain enamel now supposed to be everlasting, like granite?



Here are a few table designs of the type referred to by the author — If there is a logical answer to these comments by Mr. Gary, Finish would welcome a rebuttal from a furniture or table top producer.

I hear some porcelain enamel manufacturers sputtering that breakfast set manufacturers wouldn't adopt these prize designs. Maybe some

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New industrial horizons

have we reached the limit of industrial efficiency? – an answer in two parts

By Alfred M. Staehle VICE PRESIDENT, McGRAW HILL PUBLISHING CO., NEW YORK

PART I

WE RECALL Churchill's words in speaking of the dauntless British airmen who so bravely defended England in 1940: "Never have so many owed so much to so few." That is really the great lesson the war has taught us. Small groups of people are winning this war — small groups of airmen disrupting a vital communication center; small groups of men in PT boats paving the way for naval victories; small groups of parachute troops clinging to vital positions; small groups of army engineers building bridges — all doing their jobs so that the entire offensive strategy may succeed.

In civilian life it is the same story —small groups of people organizing blood banks and thereby saving countless lives; small groups of businessmen in Washington doing a marvelous job of organizing the industrial war effort; even small manufacturers making vital components without which our great war effort might fail.

It is so very important that we never lose sight of this simple truth as we contemplate the peacetime job ahead. For whatever future world we shall build, it will again be the result of the combined effort of small groups.

Whats ahead for business?

Let us waste no time discussing what others should do. What the government should do. What labor should do. What this and that group should do. There is too much talk of what others should do. Every serious-minded business man today wants to know what's ahead for *him* and what *his part* should be.

Our job is difficult and perplexing. Our chief problem is to try to see clearly what our objectives should be. We are puzzled by great uncertainties which tend to becloud our purpose.

What about post-war markets? We know on the one hand that when government spending drops from $90 billion to around $25 billion that will represent the swiftest disappearance of a market in all history. Yet we believe that the backlog of unfilled consumer demand may well produce markets for goods of all kinds beyond anything we have known heretofore.

What about jobs?

We understand that we must employ at least 55 million people — 10 million more than we ever employed in any peacetime year. And yet we know that between now and the post-war period at least 15 million people — nearly twice the number of people who worked in all our factories before the war — will be hunting jobs they don't now occupy. The greatest job hunt in all our history is in the making.

What about future economy? There are certainly grounds for speculation as to whether we shall emerge with what we have called the American system of free enterprise or whether we are drifting gradually, or rapidly, toward some form of nationalized industry.

This is the atmosphere of uncertainty in which we must plan. What fundamentals can we cling to on which to base our planning?

Let's examine the record

It is said that the past is but a prologue for the future. So let us examine the record of American industry to see what guidance we may find there. It shows us some very plain facts.

In the short period from 1920 to 1940 — and that is a very short period in history — this happened:

We increased the output per manhour in manufacturing industries by 117 per cent.

We increased the production of industrial goods by 67 per cent.

We reduced the prices of industrial goods by 49 per cent. Average hourly earnings rose about 40 per cent. And in the process we increased the total employment in America by 4 million people.

Within that period, such as the following took place:

We reduced the price of radios from $125 to $34 and increased the annual sales from 1.3 million sets to 13.7 million sets.

We reduced the price of mechanical refrigerators from $550 to $155 and in the process increased the annual sales from 5000 machines to 3½ million.

We reduced the price of oil burners from $735 to $333 and in-

---

Alfred M. Staehle

publisher of "Factory Management and Maintenance," "Coal Age," and "Engineering and Mining Journal."

PHOTO COURTESY WESTINGHOUSE

" . . . reduced the price of mechanical refrigerators from $550 to $155 and in the process increased the annual sales from 5,000 machines to 3½ million."

creased the annual sales from 75,000 to 321,000 units.

And we did the same thing with thousands of other products.

There is a short story that packs a terrific wallop. That's the way we made jobs in the past and that's the way we must make jobs in the future. But we have to do better than merely make 4 million new jobs in 20 years. We have to make 10 million new jobs — *and fast.* The new jobs, the highest standard of living in the world, the highest wage rates in the world — have been attained in America by the process of constantly producing more and more goods per man-hour. But that job has not been done by labor alone. It has been done in large measure by American management, through the process of constantly improving methods of manufacture. It has been done by sound engineering. It has been done by selling modern methods. It has been done by aggressive merchandising and by sound advertising.

Above all, it was done by American faith and ingenuity. And that's what we are going to need more and more of if we are to build the future we want.

Lower prices through better manufacturing and merchandising

The great markets which we shall so urgently need in the future will not be reached through any other process than by attaining lower and lower prices through better and better manufacturing and merchandising. Is there anything in our industrial history that points to a better way to create markets and jobs?

Most of us, I am sure, are in agreement on this simple fundamental. But — and it's a big BUT — I am not sure we all realize just what a terrific job lies ahead.

To begin with, there are not enough people who fully understand this process of making jobs. And I am not speaking of New Dealers alone, either.

Let me read you a startling quotation from a speech recently made by a prominent manufacturer at an engineering society meeting within the past month:

"So intense has been the preoccupation of management with the cutting of costs and improvement of production methods, that the margin of improvement in these categories has been drastically reduced. If, therefore, our economy demands that a great extension of our standard of living be made, we must look to other factors which will make this possible."

I repeat for emphasis these words: "We must look to other factors" — and he says "because the margin of improvement . . . has been drastically reduced."

Not so long ago, a sales manager of one of our large companies said that he felt the day of the production man was passed and that from now on all the gains would have to be made in the field of distribution.

Why, the day of the production man has just started! And so far as the margin of improvement having been drastically reduced — that just isn't true, as I shall try to demonstrate later on.

Has productivity increased during the war?

Along with these wrong notions, there is another one just as misleading and dangerous because it tends to lull us into complacency. It was stated recently on a national radio hookup — again by one of our most prominent business men: "There has been a tremendous increase in the productivity of the American worker." The notion that there has been a great increase in the productivity of the American worker during the war, which will be transferred promptly to the manufacture of peacetime goods, is at best questionable, if not wholly inaccurate. To be sure,

we have made great strides in reducing man-hours needed to produce war items as we attained mass production. For example, in a typical four-engine bomber plant, 200,000 man-hours were required to produce the first bomber, but only 87,500 man-hours were needed to produce the 100th bomber — and by the time the 2000th bomber was produced, it took only 13,000 man-hours. And that story is true over and over in the manufacture of war items. *But does it prove that we have increased the productivity of the worker in the manufacture of peacetime goods?*

In this connection, I want to quote from a letter recently received from an informed individual in one of our largest manufacturing plants in Detroit:

"I believe there has been very little improvement in the war period which contributes to our knowledge of the actual methods of production. The improvement has all been in terms of the application of known production methods to items formerly produced on a job shop basis. This all means that when we go back to peacetime production of items that were previously produced on a mass production basis for many years, such as, motor vehicles and household equipment, we will be faced with a decreased labor efficiency in terms of individual effort. In other words, the recent increased efficiency in aircraft engine production which is merely a result of taking over automotive processes that have been known for many years will make no contribution to more efficient automobile production while the lower level of labor effort will tend to actually reduce the efficiency of automobile production in the post-war period."

" . . . the swiftest disappearance of a market in all history."

As a matter of fact, statistical data, produced by the Department of Labor in sampling some 28 manufacturing industries which manufacture virtually the same products during peace or war, indicate that the normal increase in production per man-hour has been *retarded* during the war rather than *accelerated*.

Both of these generalities that are being so loosely bandied about are dangerous to the concept of the job

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" . . . 55 million people — 10 million more than we ever employed in any peacetime year."

Will women go back on the Range?

"Yes," says—

Elizabeth Bothwell • FOOD & HOUSEHOLD EDITOR, FAWCETT PUBLICATIONS

WHETHER or not the tens of thousands of women working in war plants will go back to their homes, you can be sure they are never going back to the old household appliances and equipment they were satisfied with in the past. For whether they work or not, the home will always be the most important center of every woman's life. The post-war housewife is going to have to do her own housework, and the war has taught her how easy it is to do automatically some of the things she once thought had to be done by her own two hands. Since the post-war housewives will do their own housework, it is only natural that they are going to become fussier than ever about the quality and performance of the home equipment which they have.

Recently you have heard a great deal of talk to the effect that American women are leaving their homes—that they have lost all interest in cooking and housekeeping. The can opener and Sunday dinner from the delicatessen have come to typify what most men at least, seem to agree is the average woman's idea of heaven. Nothing is further from the facts. The American woman has just as keen an interest in her home and is just as good a housekeeper as her mother and grandmother were before her.

PHOTO OF CP RANGE COURTESY OF CRIBBEN & SEXTON CO.

"... 43.9% of the women interviewed cook three meals a day."

Frankly, all this talk about women leaving the home worried me a lot. Being a woman myself, I just couldn't believe that the age-old love of home had given place to a whole new philosophy. Human nature just doesn't change that way. And so we made a survey among our readers to find out just what women were thinking about, and what they were planning to do after the war. We found that among the readers of "True Confessions" magazine, 72.4% were married, and most of them, 59% of total readership, had one or more children. Somewhat to our suprise we found that 68% do all or some of their own baking and that 52.9% do home canning. Even more surprising in this day when many children take lunches to school with them and when most husbands eat lunch downtown, 43.9% of the women interviewed cook three meals a day.

When you look at figures like these, it is not hard to see why these post-war home-makers are going to want and demand the most modern ranges, refrigerators, washing machines, and other household appliances. The only question in these women's minds is how they are going to be sure they are going to get the greatest convenience and the finest performance from the appliances they have been saving War Bonds to buy. That is where trade names and buying guides come in. Almost without exception, the women we surveyed are going to look for brand names and accepted buying standards, and the manufacturer who gives her these buying standards is going to be justly rewarded for his efforts.

. . . . More than twenty of the

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American Ceramic Society

forty-seventh annual program

program and abstracts for third war conference and enamel division plus abstracts of "selected" materials and equipment division papers

DUE to the restrictions on wartime travel, it was the decision of the American Ceramic Society to postpone the third War Conference planned for Buffalo, New York, on April 19 (see March *Finish*).

In order that much valuable information included in the major addresses and technical papers scheduled for the convention will not be lost to ceramic industry members, the Society plans to hold a "Conference in Print."

We are presenting here the program for the General Session and the Enamel Division program as released by A.C.S. headquarters.

General Session — Postwar Problems

Chairman: EDWIN H. FRITZ, President, The American Ceramic Society, Inc.

1. *Postwar Employment*

BY F. D. NEWBURY: Vice-President, Westinghouse Electric & Manufacturing Company, Pittsburgh 30, Pa.

No issue has been more widely discussed than the question of full employment after the war. This paper will discuss only one phase of this broad question, namely, the size of the postwar-labor force and the number of civilian jobs that corresponds to a satisfactory level of the civilian employment. Unfortunately, this difficult statistical problem has become a political issue. President Roosevelt has promised 60 million "jobs," and this figure has been quite generally adopted by those who appear to be interested in inflating the size of the problem beyond the ability of private industry.

All of the high estimates of the size of the postwar-labor force start with the U. S. Census figures of 1940, which showed a labor force of nearly 53 million. If to this figure is added the normal annual net increase of 650,000 workers, there results a labor force of 57.3 million in 1947 or 59.3 million in 1950. The political figure of "60 million jobs" is probably a "free-hand" extension of these figures. A labor force as large as 60 million workers could not be recruited from the total population without robbing schools and the homes of the nation.

A safer and more satisfactory approach to this statistical problem is to ignore the abnormal employment conditions of the war years, and to fall back on total population figures and the percentages of the several classes of men and women who normally appear in the peacetime-labor force. This method takes into account the trends toward boys and girls entering the labor force at older ages, because of longer schooling, and older men and women leaving the labor force at earlier ages because of social security and private pension plans. This method leads to an estimate of the 1950 labor force of not over 56 million.

Civilian employment (number of necessary jobs) is estimated by subtracting two million for military service and two million for the irreducible unemployment that exists even in prosperous times. This results in 52 million jobs. The difference between the political goal of 60 million jobs and a more realistic figure of 52 million jobs is the difference between an attainable objective and one that would be very difficult to reach and also socially undesirable.

2. *Postwar Construction Project Plans, a Progress Report*

BY THOMAS S. HOLDEN: F. W. Dodge Corporation, 119 W. Fortieth St., New York 18, N. Y.

3. *Porcelain Enamel—The Versatile Finish*

BY F. L. MEACHAM: Manager Sales & Service, Chicago Vitreous Enamel Product Co., 1401–47 S. 55th Court, Cicero, Ill.

The history and development of porcelain enamel up to its present-day status are briefly discussed. The uses for porcelain enamel as a decorative and engineering finish are then described as well as the many properties it possesses that make it an outstanding material of lasting beauty, excellent corrosion protection, and the many desirable properties so eagerly sought in other finishes.

4. *Consumer Credit Potential in Postwar Distribution*

BY R. H. STOUT: President, Morris Plan Bankers Association, 1025 Connecticut Ave. N. W., Washington 6, D. C.

5. *The Ceramic Industry and the Returned Service Man*

BY ARTHUR J. BLUME, CAPTAIN F. A.: Headquarters: 1587th Service Command Unit, Armed Forces Induction Station, Huntington 18, W. Va.

The mental attitudes of the returned service man and his adjustment to industrial life are discussed. It is pointed out that the effects of military experience vary with the age and the previous industrial experience of the individual. Several hints on handling the returned man are presented.

6. *War Veterans in the Postwar Ceramic Industry*

BY J. E. EAGLE: Chief, Non-Metals Section, Miscellaneous Minerals Division, War Production Board, Department 7525, Washington 25, D. C.

Enamel Division Program

Chairman: H. D. CARTER, Harshaw Chemical Company, Cleveland 6, Ohio

Secretary: D. G. MOORE, National Bureau of Standards, Washington 25, D. C.

Program Committee Chairman W. W. HIGGINS, A. O. Smith Corporation, Milwaukee 1, Wis.

1. *Factors Influencing Fluxing Action of Various Oxides in Low-Temperature Borosilicate Glasses* (published *Jour. Amer. Ceram. Soc.*, 28 [2] 33–36 (1945)

BY HOWARD R. SWIFT: Department of Ceramic Engineering, University of Illinois, Urbana, Ill.

Strontium, barium, and lead oxides were studied as fluxes in low-temperature borosilicate glasses by using the button-flow method. It was found that strontia may be superior to lead oxide as a flux in glasses high in fluorspar and low in alumina. This result was explained by the greater solubility of fluorides in strontia glasses, in which case the two fluxes, strontia and fluorspar, are acting together.

2. *Molybdenum in Enamels: III, Typical Molybdenum Enamels* (published *Jour. Amer. Ceram. Soc.*, 28 [3] 76–82 (1945)

BY KARL KAUTZ: Climax Molybdenum Company, First National Bank Bldg., Canton 2, Ohio

Compositions and characteristics of various types of enamels using the most successful mill additions in parts I and II are reported. The enamels used in this paper are (1) clear enamels (regular) for ground or colored coats, (2) clear enamels (acid resisting) for colored coats, (3) high lead clear enamels maturing below 1000° F., (4) raw or partially fritted enamels for ground or colored coats, and (5) white antimony enamels for direct application to the metal base. Reported for the first time are some white enamels containing molybdenum in the frit, which adhere to sheet steel without additions of molybdenum compounds to the mill.

3. *Molybdenum in Enamels: IV, White Molybdenum Enamels* (published *Jour. Amer. Ceram. Soc.*, 28 [3] 82–89 (1945)

BY KARL KAUTZ: Climax Molybdenum Company, First National Bank Bldg., Canton 2, Ohio

Compositions and characteristics of white enamels containing molybdenum in the frit are reported. The white enamels studied are the following types: (1) regular white ground coats, (2) acid-resisting white ground coats, (3) regular white finish coats for direct application to metal base, (4) acid-resisting white finish coats for direct application to the metal, and (5) acid-resisting white cover coats.

4. *Electrostatic Spraying of Porcelain Enamels*

By James B. Willis: Pemco Corporation, Baltimore 24, Md.

The application of the process of electrostatic spraying to the porcelain enamel industry is described. The equipment and methods of using it are given in detail. Particular emphasis is placed on the preparation of enamel for electrostatic spraying and on theoretical considerations which have a direct bearing on the spraying process. The applicability and limitations of the use of this equipment in the enamel industry are considered.

5. *Determination of Opacity of White Enamel Frits by a Nephelometric Method*

By R. M. King: Department of Ceramic Engineering, Ohio State University, Columbus 10, Ohio

Powdered enamel frits were suspended in kerosene and the decrease in light transmission was measured with a Cenco-Sheard-Sanford photelometer. Similar measurements were made on the same frits after fusing and on fused mixtures of clay and frit to determine the influence of temperature and clay additions on light transmission. These results were correlated with reflectance values obtained by the usual method.

6. *Comparison of Gouging Characteristics of Various Surfaces*

By Ralph L. Cook: Department of Ceramic Engineering, University of Illinois, Urbana, Ill.

The resistance of various surfaces to gouging was determined on the Bureau of Standards gouging machine. The types of surfaces studied included several different enamel surfaces, various glaze surfaces, polished plate glass, and several typical plastic materials.

7. *Properties and Uses of Several Clays in Porcelain Enamels*

By Ralph L. Cook: Department of Ceramic Engineering, University of Illinois, Urbana, Ill.

The comparative effect of several clays on the physical characteristics of typical ground-coat and cover enamels was investigated. In the ground-coat enamels, the effect of the clays on the firing characteristics, the development of bubble structure, reboiling, and set characteristics were studied. Suitable additions of each of the clays were made to the following cover-enamel frits: (1) a superopaque antimony frit, (2) a zirconium frit, (3) a clear frit as used for colors, and (4) a fluoride frit; and the effect on reflectance, gloss, and the resistance to gouging was noted. Spectrophotometer curves were run on selected cover-enamel surfaces. The clays showed a widely varying effect on the set characteristics and the resulting bubble structure of the ground-coat enamels. The various clays in the antimony frit caused a wide variation in the gouging characteristics while, in the zirconium frit, the clays had less effect as the gouging values were uniformly high.

8. *The NBS Ceramic Coatings for Exhaust Systems*

By W. N. Harrison: National Bureau of Standards, Washington 25, D. C.

Work on ceramic coatings for steel, designed to protect the metal against corrosion under operating conditions of temperature and thermal shock entirely beyond the range involved in such uses as enamels on kitchen utensils was begun at the National Bureau of Standards in 1942. The development of these coatings was continued during 1943, and at the request of the armed services, the application of such coatings specifically to the exhaust systems of aircraft engines was studied. In June, 1943, a report was made to the armed services and to a number of companies in the enamel and aircraft industries which had cooperated, in which the superior performance of coatings which had been developed in that study, as compared with the conventional type of porcelain enamels, was strongly indicated. One of the coatings described in that report was designated as NBS No. A-19, and exhaust stacks with this coating have since been brought into regular production for use on a number of models of aircraft. This type of coating has also been specified for certain vehicles by the Army Ordnance Department, which also has under consideration the extension of its use to include a large percentage of the vehicles manufactured for the Army. Somewhat different ceramic coatings developed by the National Bureau of Standards have been specified by the Navy Department, Bureau of Ships, for use on certain craft equipped with large wet mufflers and others having dry mufflers. A cooperative project between the Bureau of Ships, the Naval Engineering Experiment Station, and the Bureau of Standards is under way for the purpose of further development of ceramic coatings for wet mufflers.

9. *Titanium Steel for Vitreous Enameling*

By E. Wainer and G. F. Comstock: Titanium Alloy Manufacturing Company, Niagara Falls, N. Y.

Steel containing sufficient titanium to combine with all of the carbon does not react with vitreous enamels like ordinary low-carbon steel or ingot iron so that white cover-coat enamels, without a ground coat, can be fused on it without blistering or black specking. The titanium content must be more than 4.5 times the carbon content. This steel has been made commercially by the basic open-hearth process, and the requirements for successful manufacture are explained. It is of excellent quality for deep-drawing, and it has unusually good sagging resistance at enameling temperatures.

Preparation of this steel for successful enameling requires careful attention to details, which are explained. Proper pickling and rinsing are especially important. Nickel flashing to the correct degree is generally essential, with most enamels, for satisfactory adherence. Single-coat white enameling is possible with this steel under ideal conditions, but, in general commercial practice, two half coats are preferable as insurance against defects that are not due to steel quality.

10. *Study of Nickel Flashing and Its Relation to Enamel Adherence*

By E. Wainer and W. J. Baldwin: Research Laboratories, Titanium Alloy Manufacturing Company, Niagara Falls, N. Y.

Nickel flashing as applied to enameling stock is shown to be primarily metallic nickel. The role of nickel in developing enamel adherence is apparently bound up with the retardation of oxidation of the base iron which the nickel flash imparts in the enameling cycles. Using cover coats directly on iron, the amount of nickel required will vary with each particular enamel composition.

The problem of adherence is entirely a corrosion phenomenon of the base iron developed by the action of gases and other agents which may be present at enameling temperatures. The equilibria developed at enameling temperatures, particularly the gas equilibria, are strongly affected by the presence of nickel.

Some evidence as to the nature of the adherence-promoting oxides is presented

11. *An Evaluation of One-Coat Enamels for Kitchenware*

By Leon J. Frost: *Titanium Alloy* Manufacturing Company, Niagara Falls, N. Y.

12. *Crazing of Electric Stove Tops in Service*

By R. L. Fellows: *Chicago Vitreous* Enamel Product Company, Cicero, Ill.

Examination of crazed stove tops shows two types of crazing; one is in the form of a network of cracks, while the other occurs in parallel lines. The former is a thermal-shock failure; the latter occurs in the normal use of the stove. The craze lines are caused by localized heating of the stove top and are a deflection failure of the enamel.

Observations were made of the effect of weight of application of enamel, types of enamel, and stress in enamel.

13. *Properties of Enamel Slips: II, Suspension of Enamel Frits*

By Burnham W. King, Jr., Herbert D. Carter, and Harry C. Draker: Harshaw Chemical Company, 1945 East 97th St., Cleveland 6, Ohio

The mechanism of suspending enamel frits was studied in relation to the effect of the soluble salts dissolved from the frits and the dispensing properties of the frits themselves. Data are given concerning the effect of aging on soluble salts and the enamel pickup weight, along with information on the effect of various special salts.

Materials and Equipment Division Program

Chairman: J. R. Kauffman, Allied Engineering Company, Millville, N. J.

Acting Chairman: J. F. Day, 1901 Dresden Road, Zanesville, Ohio

Secretary: V. J. Roehm, Kentucky Clay Mining Company, Alliance, Ohio

Program Committee

W. E. Dougherty, Chairman, O. Hommel Company, Pittsburgh 30, Pa.

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Suggested layout

for a continuous furnace stove and table top plant

By M. M. Murphy • ENGINEER, ALBERT J. BOLAND COMPANY, ST. LOUIS, MO.

Exclusive feature finish

There is an unprecedented demand in the enameling industry for soundly engineered enameling plants to meet expanding requirements for post-war enameling.

During recent years great progress has been made in enameling technique. Steel producers have done much to improve the characteristics of enameling sheets; likewise, the frit manufacturers have shown great improvement in their materials. The missing link in this picture is the fact that in many instances product manufacturers and job enamelers have not kept pace with these improvements, and are attempting to produce quality porcelain enameled ware in plants that are antiquated from the standpoints of design and plant facilities.

In the accompanying layout suggestion, which is typical of many that have been prepared for enamel plant operators, we have kept three important factors in mind above everything else. They are:

1. *Provide facilities for the production of top quality enameled ware.*
2. *Minimize manual labor requirements for handling.*
3. *Plan the installation of equipment to cut down material losses and to make the reclaiming of materials practical.*

One point that should be of interest to enamel plant men is the location of the furnace, plus the fact that the conveyor chain is of minimum length and has wide radius turns to prevent unnecessary conveyor vibration. As can be readily seen, the furnace location permits loading from all feed conveyors without extra handling, and offers additional assurance of a completely loaded furnace at all times.

AREA "A" — Engineering Department

In this plant an area was desired in this location for product development. The area designated as "engineering department" is provided for this purpose.

AREA "B" — Experimental and Testing Department

It was further desirable in this plant to have the experimental and testing department in conjunction with the engineering department in this section of the plant. Actual testing of the finished product will be handled here.

AREA "C" — Tool Storage

To avoid the usual disarray of burning tools and other equipment necessary in the enamel shop, and to make certain that all equipment is in satisfactory condition for operation at all times, a tool storage center has been included. The man in charge will be responsible for inventories and the condition of the tools.

AREA "D" — Mill Room.

The milling area is designed along accepted lines of simplified layout with all mills in a straight line for accessibility and individual liquid storage tanks provided for each mill. This gives complete flexibility with regard to types of enamels to be milled and stored.

An interesting feature of the storage tanks is the fact that they are all planned for porcelain brick linings of the same type material installed in the mills, and with non-corrosive metal agitators. The cycle of agitation is 5 minutes out of every 30. Other standard items of equipment such as magnetic separator, mechanical screening, etc., are planned.

AREA "E" — Storage Balcony.

The balcony covers the entire mill room area providing space for all storage of frit and materials and equipped with mechanical handling equipment. The elevator adjacent to tool storage provides for acceptance of materials at first floor level, with immediate delivery to storage room. All mills will be loaded from the balcony.

AREA "F" — Wash Sump and Storage.

This space is for the storage and cleaning of all pressure tanks, dip tanks, spray guns, spray hose, etc. This keeps the equipment from disorganizing the mill room and makes it unnecessary to handle the cleaning operation in an otherwise tidy mill room. It is recommended that all pressure tanks be filled in the mill room and transferred to the wash sump for exterior cleaning before being delivered to the spray room.

AREA "G" — Inspection and Transfer to assembly.

This area provides space for final inspection of fired parts. After final inspection the ware is transferred immediately to the assembly department or crating and shipping department.

AREA "H" — Press Room

This indicates the fabricating department with a large entryway to the pickle room loading conveyor.

AREA "I" — Control Laboratory.

Responsibility for complete technical control of enamel plant opera-

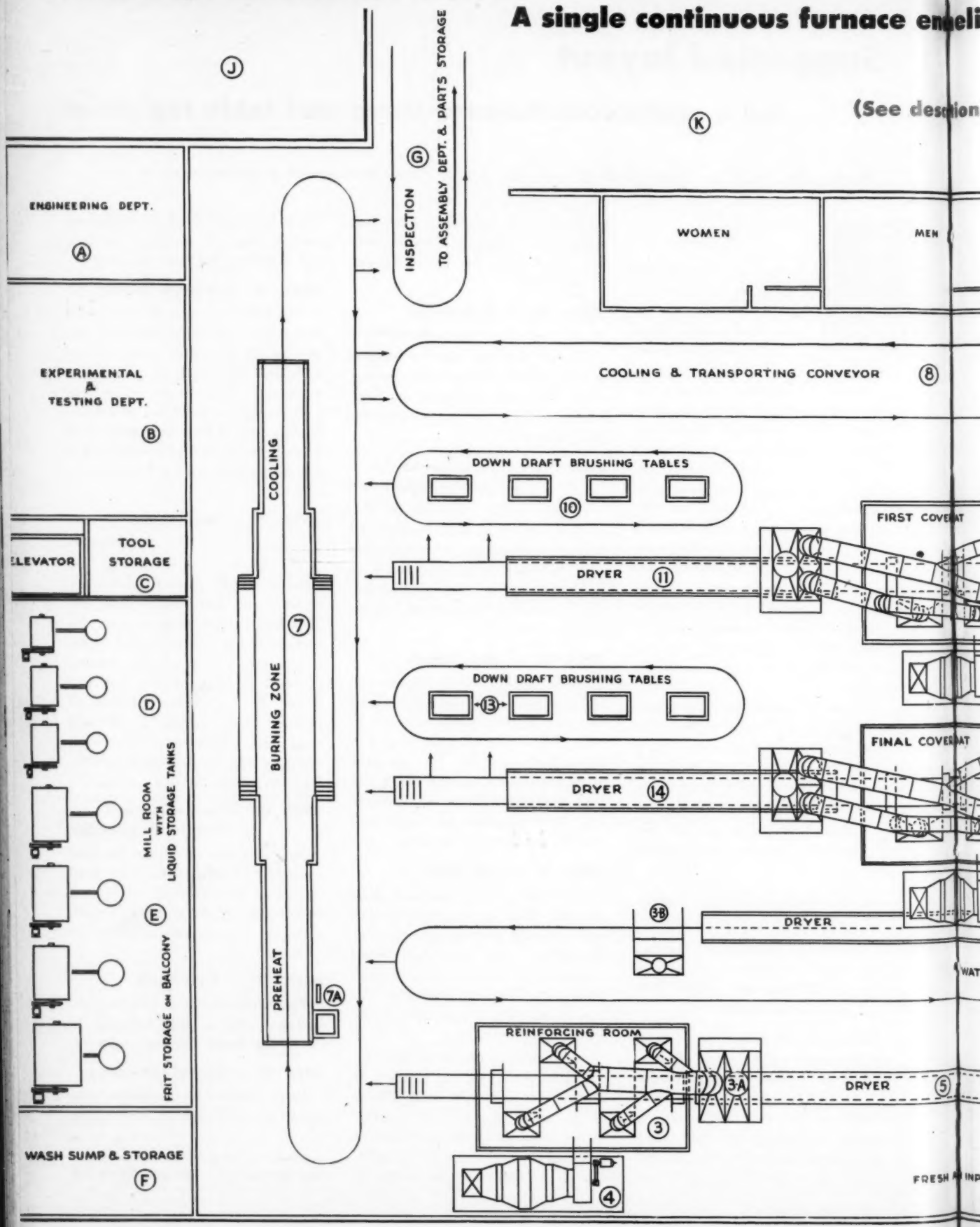
to Page 30 →

See layout . . . Pages 28 & 29

Plant layout No. 3 . . . . .

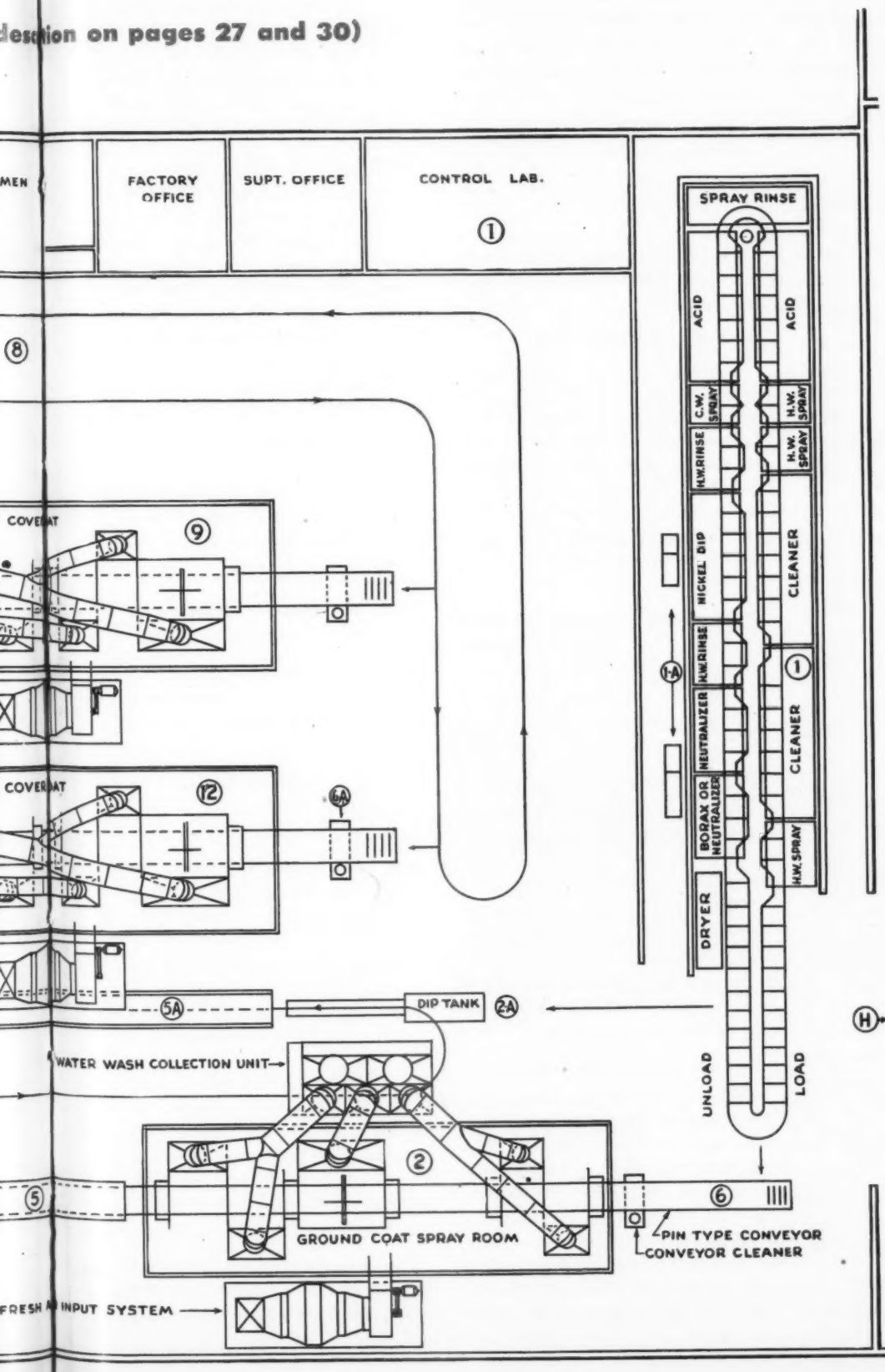
A single continuous furnace enel

(See descrion



eneeling plant for stove parts and table tops

(description on pages 27 and 30)



A. *Engineering department*

B. *Experimental and testing department (Product testing)*

C. *Tool Storage (Burning tools and other equipment)*

D. *First floor mill room*

E. *Storage balcony for frit & other raw materials.*

F. *Wash sump and storage*

G. *Final inspection and transfer from enameling plant*

H. *Fabricating department and raw shape storage.*

I. *Control laboratory for all enameling plant operations*

J. *Crating and shipping dept.*

K. *Product assembly for stoves*

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1. *Automatic pickling machine*

1-A. *Filter pumps for nickel and neutralizer tanks*

2. *Air conditioned ground coat spray room*

2-A. *Ground coat dip tank*

3. *Air conditioned reenforcing room*

3-A. *Spray booth exhaust chamber*

3-B. *Spray booth for blackedging*

4. *Air input unit for air conditioned rooms.*

5. *Ground coat dryer for flatware*

5-A. *Ground coat dryer for dipped parts*

6. *Pin type conveyor for sprayed parts*

6-A. *Exhausted cleaner for pin type conveyor*

7. *Single flow, straight away continuous furnace*

7-A. *Orsat type CO_2 recorder*

8. *Cooling and transporting conveyor*

9. *Air conditioned spray room for first cover coat*

10. *Down draft brushing tables (First cover coat)*

11. *Cover coat dryer*

12. *Air conditioned spray room for final cover coat*

13. *Down draft brushing tables (final cover coat)*

14. *Finish coat dryer (Same type as Unit 11)*

→ *from Page 27*

tions will be lodged in this laboratory. Facilities will include all necessary equipment and materials for raw material testing, and control of pickle room and mill room.

Adjacent to the control laboratory provisions are made for the enamel plant superintendent's office and, in this instance, a general factory office was required.

AREA "J"—Crating and Shipping.

Located at a point near both final inspection of finished ware and assembly of stove units.

AREA "K" — Product Assembly.

By locating final inspection, final assembly, and crating and shipping together there is minimum conveyor travel and no unnecessary handling. Table tops leaving the inspection line go immediately to crating and shipping (Dept. "J") while stove parts are unloaded at "K" for assembly.

UNIT 1. — Automatic pickling machine.

This unit is designed as an arm-type pickling machine with capacity for handling the production of the plant on a straight production flow basis. Provision is made for sufficient exhaust capacity to eliminate all fumes from the pickle room area.

A feature of this equipment (1-A) is the portable filter pumps for the nickel and neutralizer tanks.

UNIT 2 — Ground Coat Spray Room.

All flat ware will be sprayed in ground coat in a completely air conditioned spray room. Spraying routine calls for spraying the backs in staggered manual spray booths, after which the ware is turned over and enters the automatic spray machine in the center of the room. Leaving the automatic machine it enters staggered spray booths for spraying edges.

Unit 2-A, ground coat dip tank, is provided for fabricated ware not suited for ground coat spray — such as oven linings, range chassis, etc.

UNIT 3 — Reenforcing Room.

This room is designed similarly to the ground coat spray room. It includes four manual spray booths. The first two staggered booths are for black edging — the remaining two for colored edging as required.

Unit 3-A indicates the wet exhaust chamber for the spray booth exhaust. Similar equipment can also be seen at all spray room enclosures.

All spray booths are equipped with large dry collection chambers where the enamels can be reclaimed in semi-dry form.

Unit 3-B is provided for black edging of fabricated parts on the monorail conveyor.

UNIT 4 — Air Input Unit

The air is taken from the outside and passes through tempering coils into a continuous automatic oil filter. It then passes through heating coils (for winter use) and is distributed in a plenum chamber where the air passes through a perforated ceiling, creating a slight pressure in the room — thus preventing infiltration of dirt in the spray room.

UNITS 5 and 5-A — Ground Coat Dryers.

Ground coat dryers are designed for infra-red gas drying. No. 5 has pin type conveyor; 5-A has monorail conveyor.

UNIT 6 — Pin Type Conveyor

The pin type conveyor is recommended to replace the cable conveyor for sprayed ware as a protection for the unfired enamel on flanges.

Unit 6-A is an exhausted conveyor cleaner to prevent carrying foreign materials into the spray booths and contaminating reclaimed enamel. It will be noticed that these are located on all pin type conveyors.

UNIT 7 — Continuous Furnace.

This is designed as a single flow, straight away furnace with wide radius conveyor turns. The single flow allows for very close loading of parts. Either gas, oil, butane or propane may be used.

One feature of the furnace equipment is the Orsat type CO_2 recording instrument (7-A) for constant checking of the flue gases in order to control combustion. This has proved a practical feature in fuel saving alone.

UNIT 8 — Cooling and Transporting Conveyor.

This shop service conveyor is laid out to feed the two cover coat spray rooms. It is equipped with racks composed of metal frames and wood shelves.

UNIT 9 — First Cover Coat Spray Room.

This unit is similar in design to Unit No. 2, except that it has a different arrangement of booths for cover coat application. The lead booth is an automatic spray machine, followed by staggered type edging booths, and finally a manual spray booth for the application of acid resisting enamel for one-coat work.

UNIT 10 — Brushing Tables.

Down-draft brushing tables are provided to eliminate all unnecessary dust and to maintain healthful working conditions. Exhausting is accomplished by a high speed exhausting unit.

UNIT 11 — Finish Coat Dryer.

This Unit is identical to Dryer 5.

UNIT 12 — Final Cover Coat Spray Room.

This Unit is identical to Unit No. 9.

UNIT 13 — Brushing Tables.

This Unit is identical to Unit No. 10.

UNIT 14 — Finish Coat Dryer.

This Unit is identical to Units No. 5 and No. 11.

This plant is designed with the intent of firing ground coat and cover coat enamels at identical time and temperature cycles. There will be a continuous flow of ware through the furnace under normal plant operation, eliminating any necessity for banked ware or storage areas. Any adjustment in finish coat procedure can be taken care of by the cooling and transporting conveyor.

If you have a good idea pertaining to plant layout or equipment send it to Finish—It may help someone else.

Washer and Ironer Association

to function through committees

TEN appointive committees, five of them established to perform new duties, will head up the activities of the American Washer and Ironer Manufacturers' Association in 1945.

Revealing his plan at the first meeting of the group's new executive committee in Chicago on March 1, Louis C. Upton, president of the Nineteen Hundred Corporation, St. Joseph, Mich., and presiding for the first time as head of the Association, gave two principal reasons for the elaborate new arrangement.

"It will cover every worthwhile mutual interest of our full membership and committees will be able to assemble, deliberate and record their decisions for the benefit of the full membership at this time when limitations upon the size of meetings make it impossible for the Association as a whole to study the problems faced by our industry," President Upton pointed out.

One of the new committees is the Associates Committee, giving administrative recognition for the first time to the suppliers to the industry who constitute the organization's Associate membership. It is headed by Carl Huff, Bliss & Laughlin Company, Harvey, Ill. The other new committees are Ironer and Dryer, Finance, Government and Industrial Relations. Three committees conducting old activities under slightly altered titles are: Advertising and Market Research, Engineering and Research, and International Markets and Trends. Rounding out the half-score are the Washington-named OPA and WPB committees representing the industry.

All committees will work closely with the organization's newly elected executive committee and their chairmen will participate in that committee's meetings. Serving as liaison officer between it and the committees will be Roy A. Bradt, vice president, Maytag Company, Newton, Iowa, chairman of the Association's postwar planning committee since its inception in 1943, who was elected to the executive committee in January.

"The Associates Committee is being established because it is the mutually helpful thing to do," President Upton said. "For a long time some of our warmest personal friendships and best service and counsel have had their origins among our suppliers, and yet we never have given formal recognition to this, or considered wherein we may strengthen and extend these good relationships.

"We should expect equally helpful results from the activities of the other committees, for it is obvious that much important work needs to be done in each field. There is requirement for intensive consideration of many vital subjects."

Committee selections were made, Mr. Upton added, with some view to members' accessibility to each other, in addition to their natural qualifications for the jobs to be done. As a means of facilitating the holding of meetings and keeping long travel to a minimum, Syracuse, Cleveland, Chicago and Newton, Iowa, were designated as logical geographical nucleus points.

The Ferro Enamel Corporation, Cleveland, was elected an Associate member.

Others among the Associate membership are: The Allianceware, Inc., American Rolling Mill Company, Chicago Mill and Lumber Co., Cleveland Co-Operative Stove Co., Geuder, Paeschke & Frey Co., Mullins Manufacturing Corp. (Salem, Ohio), New Monarch Machine & Stamping Co., and The Permold Company.

The executive committee's next meeting will be held about May 1.

From refrigerators to gliders

in less than six months

An interesting story of conversion from peacetime products to war work is that of the Gibson Refrigerator Company, Greenville, Michigan.

In April, 1942, the company ceased the manufacture of refrigerators and started conversion for the production of gliders. In less than six months their first finished glider had completed its test flight and was turned over to Wright Field. A photograph of this first glider off the production line is shown.

An interesting sidelight, for which the employees of Gibson may well be proud, is the fact that the first glider to land in Normandy on D-day was Gibson-made. It was named "The Fighting Falcon" and was bought by war bond purchases of the school children of Greenville.

The company has recently been awarded another prime contract for troop-carrying gliders, having completed a large contract for these glid-

to Page 54 (Column 3) →


SINGLENESS

OF PURPOSE

From the day we started business our course has been charted so that every port of call would find PEMCO willing to serve; to help you solve your problems!

This "singleness of purpose" finds expression in the quality of our products, in the approach of our personnel and in our methods of doing business. It is synonymous with stability! It will pilot you over the shoals of uncertainty; will eliminate guesswork and add considerable to the proficiency of your operation.

To maintain this high state of efficiency it has been necessary that constant supervision and research govern the production of our products.

Modernization of controls adds to their uniformity!

As a practical example PEMCO operates the ONLY COMPLETELY CONTINUOUS SMELTERS in the enameling industry—*wholly controlled by electronics.*

Because of this most modern process the slightest margin of human error is eliminated and the result is frit of a guaranteed uniformity.

Given the opportunity we'll gladly demonstrate this quality of Pemco Frit — and show you why it is accepted as a basis for comparison by the industry.

An interview involves no obligation and should prove mutually profitable. Will you write, please? Thank you.

PEMCO CORPORATION

BALTIMORE MARYLAND

"ALWAYS BEGIN WITH A GOOD FINISH"

A.C.S. PROGRAM

(Continued from Page 26)

E. W. Emrich, R. T. Vanderbilt Laboratories, East Norwalk, Conn.
J. S. Breitenstein, Titanium Division, National Lead Company, South Amboy, N. J.

1. *The Infrared Principle, What It Is and What It Does*

By William H. Tesmer: Burdett Manufacturing Company, 19 N. Loomis St., Chicago 7, Ill.

2. *Unit Dust Collectors for Use in the Ceramic Industry*

By M. R. Robinson: Robinson Ventilating Company, Zelienople, Pa.

3. *Development of Zircon as a Versatile Ceramic Material*

By N. R. Thielke and H. W. Jamison: Orefraction, Incorporated, 7505 Meade St., Pittsburgh 8, Pa.

A survey is presented of the development and applications of zircon in modern ceramics. The distribution, mineral occurrences, and commercial deposits are described, and mining and beneficiation methods are outlined. The physical and chemical properties of various commercial zircon products especially interesting to the ceramic engineer are tabulated, with particular reference to the application of zircon in the fields of refractories, enamels, glazes, and special porcelains.

4. *Manufacturing Control Employing X-Ray Diffraction Methods*

By F. G. Firth: North American Philips Company, Incorporated, 100 East 42nd St., New York 17, N. Y.

The use of the spectrometer and other X-ray diffraction equipment is described as related to the quantitative determination of raw materials in the ceramic industry. Other points discussed are as follows: (1) the possibilities of following accurately the effects of heat-treatment, (2) discussion of particle-size evaluation with a spectrometer by means of half-line width intensity, which gives values for average particle size only, and (3) discussion of the newer method of low-angle scattering in terms of particle-size distribution.

5. *Coatings for Wire-Wound Resistors*

By Edward E. Marbaker: Mellon Institute of Industrial Research, Pittsburgh 13, Pa. (Investigator, Research Project NRC-538 and OPRD 483).

This paper describes the experimental work carried out by the O. Hommel Fellowship, Mellon Institute, under contract of the O. Hommel Company with the Office of Production Research and Development of the War Production Board, to develop a coating for wire-wound resistors which would pass the Grade 1, Class I qualification tests of Navy Specification Re 13A 372J. An outline of the methods used, a general survey of the types of coating considered, generalizations concerning requirements, and conclusions are presented.

The work includes studies of the conventional enameled Nichrome-wound steatite tube resistors which consisted of an

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For Tomorrow...

Back in 1932, this porcelain enameled box was placed in one of our office windows. After thirteen years, it is just as good looking and useful as it ever was — no repairing, no repainting.

We aren't selling these boxes today. Maybe tomorrow there will be a market for them.

But we are trying to sell an idea — Suggest to your designers that they forget about glass and plastics and light metals for a while. Ask them to dream about your "product of tomorrow" made beautiful and useful with porcelain enamel — the lifetime finish.

Maybe our engineers can help you build beauty and permanence into what you are making. During the war we have had experience in the design of porcelain enameled parts for essential products.

VITREOUS STEEL PRODUCTS CO.

BOX 1791, CLEVELAND 5, OHIO *(Factory at Nappanee, Ind.)*

NEWS

Seeger executive dies

Friends in the enameling industry will regret to hear of the passing of Mr. G. R. Seeger, Chairman of the Board of the Seeger Refrigerator Company, St. Paul, Minnesota. Mr. Seeger was well known in the enameling and refrigeration industries, having spent many years of active service in the Seeger organization, which has been an important link in the rapidly expanding refrigeration industry.

"Gus," as he was familiarly known, had worked step by step through the entire plant to his position as Chairman of the Board.

Mr. Seeger died on February 24, at the age of 56, having been with the company since 1908. *Finish* joins his many friends in expressing sympathy.

First Ing-Rich prisoner of war

To Pfc. Paul E. Howe goes the unwanted distinction of being the first Ing-Rich serviceman to be taken prisoner by the Germans. Howe was one of the many men formerly in the company's Armor Plate Department who are now serving overseas. He was nabbed by the Germanss in late September.

Two Pemco men advanced

James J. Theodore is now in the engineering department in charge of plant layout at Pemco Corporation, Baltimore, Md., and Jimmy Willis is associated with the research and engineering division, according to a recent report.

These changes are said to be in line with expansion plans which the company expects to put into effect as soon as equipment and materials are available.

Complete membership of Forum Committee announced by Porcelain Enamel Institute

F. E. Hodek, Jr., Chairman, General Porcelain Enameling & Mfg. Co., Chicago, Illinois

A. I. Andrews, Vice Chairman, University of Illinois, Urbana, Illinois

J. E. Hansen, Ferro Enamel Corporation, Cleveland, Ohio.

R. M. King, Ohio State University, Columbus, Ohio.

L. E. Nordholt, Tennessee Enamel Manufacturing Co., Nashville, Tenn.

F. R. Porter, Inland Steel Company, Indiana Harbor, Indiana.

N. G. Wedemeyer, Rohm & Haas Company, Philadelphia, Pa.

E. H. Shands, Geo. D. Roper Corporation, Rockford, Illinois.

Ceramic foundation appoints Constans

The Edward Orton, Jr., Ceramic Foundation announces the appointment of Eldon G. Constans as ceramic engineer. He will be attached to the staff at Columbus, Ohio.

Mr. Constans was in the ceramic engineering class of 1933 at Ohio State University. He has given much of his time to work in enamels and glass, as well as in clay products. He was with the Westinghouse Electric and Manufacturing Co., Newark Stove Co., and Landers, Frary and Clark Co. in the course of his employment. He leaves the Curtiss-Wright Corp. as a project coordinator in the Columbus plant to take over his new work.

John L. Carruthers, manager of the Foundation, said that the new appointee will carry on research work in the further development of the use of standard pyrometric cones, classed by WMC as A-1 in connection with war industries.

Geuder, Paeschke & Frey president dies

Frank A. Frey, 56, president and treasurer of the Geuder, Paeschke & Frey Co., passed away suddenly at his home on Wednesday evening, Feb. 21.

He was born April 16, 1888 in Milwaukee. Upon graduation from the University of Wisconsin, Class of 1912, he traveled extensively in Europe, visiting metal stamping and enameling plants throughout the Continent. After a year of research he returned to Milwaukee to put his knowledge to work, gaining practical

experience in the factory as a workman.

Starting with the Geuder, Paeschke & Frey Co., as a worker in the shop, on January 1, 1913, he rose to the position of evecutive vice president and treasurer in 1935 and became president and treasurer of the firm in 1939.

Mr. Frey followed in his father's footsteps in the business as Mr. Frank J. Frey was the co-founder of the firm with Wm. Geuder and Charles A. Paeschke, in 1882.

He was active in Club work, having been past president of the Wisconsin Club, past president of the Gyro Club, member of the University Club, Milwaukee Athletic Club and the Union League Club of Chicago.

Murphy associated with Boland

M. M. (Merse) Murphy, who was for eighteen years associated with The De Vilbiss Company, Toledo, Ohio, is now with Albert J. Boland Company, St. Louis, Missouri, known in the enameling industry as builder of high temperature enamel furnaces.

It is understood that in his connection with the Boland organization Mr. Murphy will have sales representation for a number of the major supply and equipment lines.

The company advises that they are now in position to design and build complete enameling plants.

Easy Washing Machine Company, Syracuse, N.Y., is reported to have purchased the patents on the "Whirl Dry" midget washing machine formerly owned by Western Cartridge Company.

$232,735 paid to G-E workers for year's production suggestions

Production suggestions from employees, many of which accelerated the war program, netted General Electric workers $232,735 in awards during 1944, according to company tabulations recently released. The total payment was for 19,488 ideas adopted by the suggestion committee, slightly fewer than the all-time high of a year ago, but 22 per cent more than those adopted the year previous.

Some of the suggestions incorporated into the company's production program aided the war effort by showing how to save critical materials or how to reduce the time required to complete a job. Others eliminated safety hazards, while still others simplified work operations.

Pemco says experiments prove practicability of electrostatic spraying

The following is quoted from a release recently received from Pemco Corporation, Baltimore, Md.:

"Several years ago the Harper J. Ransburg Company of Indianapolis, confronted with the problem of overspraying in the application of paints and varnishes, conceived the idea of applying the principles of electronics to automatic spraying and achieved a major success.

"As a result of their success in the application of organic coatings, it was logically reasoned that the possibilities pointed to the success of electrostatic spraying with inorganic materials.

"Early in 1944 Pemco became seriously interested in electrostatic spraying for use in porcelain enameling and determined to find out if the process would be of any value to the industry. In July of 1944 the equipment necessary for tests and experimentation was set up at the Pemco plant in Baltimore and a clearly defined program, under the supervision of the Research Division, was put into effect.

"The technical data accumulated during these tests definitely proved that electrostatic spraying is satisfactory in porcelain enameling and when properly used a uniformly coated product, with the minimum of overspraying, is obtained."

New production head at Mullins' Salem plant

G. R. Limestahl has succeeded W. J. Pfaff as superintendent of production at Mullins Manufacturing Corporation's Plant 3 in Salem, Ohio. Mr. Limestahl joined Mullins in 1929 as a timekeeper in the old boat works at Plant 2. Later he was advanced to the estimating department, and in 1941 became production manager at Plant 3.

At present all Mullins plants are engaged in war work, but it is expected that Mr. Limestahl's activity in Mullins' program of building steel kitchen cabinets prior to the war will be valuable in his new position when peacetime production is again in order.

Mr. Pfaff is now with Round Oak Stove Company—*(See March Finish)*.

New use for porcelain enamel in water heater tanks.

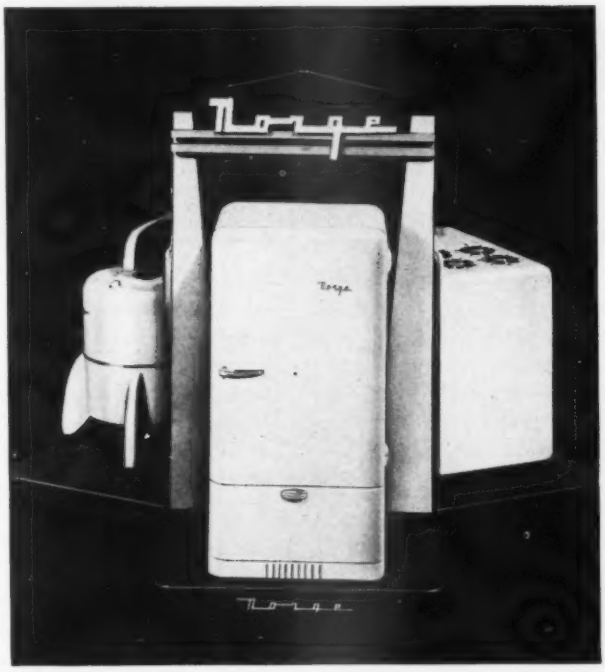
A copper-lined porcelain enamel and steel water tank of the type used for domestic hot water storage, home water softener systems, and pump systems is planned for postwar production by The American Welding & Manufacturing Co., Warren, Ohio.

Answering the problems of com-

bining copper with a base metal in such a way to avoid galvanic action set up by the electric potentials of the two metals, American Welding uses porcelain enamel as an insulator between a steel tank and a copper lining. A metal bond coating applied to the porcelain enamel serves to bond the copper lining to the enamel. The binder is also an insulation against electrolysis and provides about the same coefficient of expansion for tank liner and exterior, according to the manufacturer.

The resulting product is a hot water tank which will cost about half as much as an all-copper installation, provide greater strength, and give the same length of service, American Welding executives state. Distribution will probably be handled through established hot water heater manufacturers and range boiler jobbers now in the field.

Norge introduces the "Panel Package"



In order to demonstrate to dealers and distributors the effectiveness and flexibility of its new background panels, the Norge division of Borg-Warner Corp. has prepared cast plaster replicas of Norge appliances and miniatures of floor and window displays for salesmen to carry. Shown here is an island group of miniatures, consisting of two side-wing displays and one center panel, and showing a Norge refrigerator, washer and gas range. The displays are adaptable for use with Norge electric ranges and home heaters and may be used singly or in groups up to four.

Titanium doubles research facilities and personnel

Titanium Alloy Manufacturing Company, Niagara Falls, New York, reports a broad expansion of its research and laboratory facilities, and its technical staff. Six men in the analytical field, five ceramic engineers, plus other qualified chemists, have joined the corporation recently to work on developments in the electric, chemical and ceramic fields.

It is reported that the following will work on projects related to the ceramic finishing industry:

J. S. Geiger has been made research associate. He comes to the organization from National Tile Company, where he was chief ceramic engineer.

Karl B. Thews has been appointed manager of sales. His responsibilities include the direction of metallurgical, chemical and ceramic sales, as well as all field developments. He was formerly chief development engineer of Titanium's Chemical Division.

Jack G. Merriam has been appointed to the sales force in the Detroit area, with headquarters at Toledo, Ohio. He was formerly in laboratory work at the Niagara plant, and before that with the Bureau of Mines. He is an honor graduate of Alfred University.

Harold D. Prior has been transferred to the New York sales staff and placed in charge of the work. He was in the Niagara plant's laboratory for eight years, and is also an honor graduate of Alfred.

Gilbert H. Jeffery is assigned to field development work in the New York District. He will work with manufacturers using or testing Titanium products.

Ross G. Harrison, Jr., joins Titanium as development engineer, coming from Eclipse-Pioneer Division of Bendix Aviation Corporation.

Rathbun heads Westinghouse air conditioning divison.

Ellis L. Spray, vice president and general manager of Westinghouse Electric Elevator Company, has announced the creation of two separate divisions — the Air Conditioning and the Elevator Divisions.

Ross Rathbun, formerly manager of air conditioning, has been appointed manager of the new Air Con-

ditioning Division, which will include the Precipitron. It is pointed out that the Precipitron, an electronic device which is said to remove 95% of dirt particles from the air, and air conditioning are in increasing demand as a combined unit, making the combining of these two branches logical.

Mr. Rathbun is a graduate of Dakota Wesleyan University, with graduate work in electric engineering at Massachusetts Institute of Technology. He joined Westinghouse Company in 1916.

Enamel executive's daughter in sports spotlight

The accompanying photograph shows Martha Clawson, daughter of C. D. Clawson, Ferro Enamel Corporation's vice president, aiming for the basket.

The photo, together with others picturing athletic activity at Laurel School, appeared in Polly Parsons' column "Girl About Town" in the Cleveland News.

Martha, in her junior year, and her first year at Laurel, is pictured as being active in inter-class competitive sports.

Rutile in ample supply according to TAM

According to information released by Titanium Alloy Manufacturing Company, Niagara Falls, "there is enough rutile at Niagara Falls, New York, to meet all anticipated requirements for the ceramic industry for the next six to eight years."

A rutile for use in stainless frits has been developed by TAM. American in source, its staining qualities are said to equal or exceed that of imported rutile.

Returned veterans accept "E" award at Brown

The fourth Army-Navy "E" award presented to the Brown Instrument Company for war production was accepted recently by a group of honorably discharged veterans of World War II on behalf of their fellow workers and management of the Philadelphia industrial instrument manufacturer.

In the photograph of Army, Navy and Marine Corps veterans who have doffed their uniforms are: Seated, left to right — John Bodner, Alex. Blank, Otto Kugler, Leo Geese, George Strubel and Jim Shockley. Standing, left to right: H. H. Ehrhart, George Schwinn and Francis Nealis.

O. Hommel presents service emblems

The O. Hommel Company recently reported its annual presentation of service emblems. Eighteen emblems were presented to employees with varying lengths of service.

The practice of presenting emblems of service was started in 1938, by the late Oscar Hommel, founder and president of the O. Hommel Company. To date sixty-six service emblems have been presented. This number represents nearly 50% of the employees. The longest period of service is 40 years, with the exception of Mrs. Oscar Hommel who wears a 45-year pin.

Ernest Hommel made the presentation of the emblems and spoke briefly on the part the O. Hommel Company has taken in the war effort. He said, "We started by putting in the machinery and equipment for making thermite, and we were in production sooner than any other company who took such a contract. Then came calcium silicon. We built our plant, did a better job, and did it more quickly than the others. Next was the magnesium plant. We said we would be in production in 60 days, and we were. The last job we undertook was to build the grained aluminum plant. Here again it was a case of doing something others did not want to do, but we tackled the job. We have produced well over the amount we were asked to produce. We have never had a pound of any of our products rejected.

"All of our expansion has been done without Government financing. We had faith in what we were doing and in the ability of our organization to do it, and do it better."

Mr. Hommel urged all employees

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PORCELAIN ON STEEL TILE

Installs in ½ the time

The swift, trouble-free installation of Veos Tile cuts cost . . . no special wall preparation . . . no plaster dirt . . . no fuss . . . no muss. You install once for life, and it's like having new walls all the time. Nothing clings to the hard porcelain surface. It cleans easily as a china dish. Eliminates expense of periodic refinishing. Modern tile sizes, colors, shapes, permit rich individual wall and ceiling effects. Installations are made by factory-trained experts, and guaranteed against cracking, crazing, or color-fading for the life of your home or building.

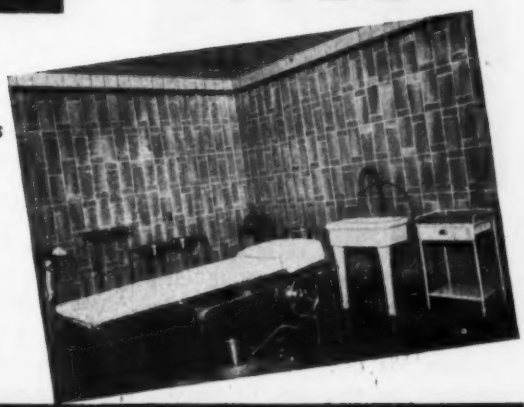
Write for further information.

VEOS
PORCELAIN ON STEEL
TILE

10 Big Advantages

For Residences, Commercial and Industrial Buildings, Institutions

- Installs in HALF the usual time
- No extra charge for colored tile
- Light weight . . . ideal for new work or remodeling
- Upkeep at a minimum
- Quick, easy servicing
- Won't crack or craze
- Won't color-fade
- Won't loosen
- Won't warp or sag
- GUARANTEED FOR LIFE OF BUILDING



CLYDE PORCELAIN STEEL CORPORATION
CLYDE, OHIO

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to work more efficiently and to eliminate absenteeism, so that it would be possible to produce a greater quantity of material. He said, "Now that we know how to make materials which the Government needs, let us make better products and more of them."

In closing his talk to the employees, Mr. Hommel said, "I want to take this opportunity to thank all of you for what you have done. We can all feel very well satisfied. No one person has done the job; we have all done it together. We have produced a lot of material, and everyone in the company can feel that he has done his share in the last three years in helping the war effort."

Emblems were presented to the following people: A. F. Langerman, 30 years; C. Hartman, 25 years; F. E. Stitt and J. D. Johnson, 20 years; J. J. Kostishack, J. Kasovitz and H. Vock, 15 years; C. Arnac, T. Pappas, H. P. Jones, J. H. Clatty, G. Aspell, J. Ludlam, J. Goldstein, W. E. Jagle, J. F. McCarthy, 10 years; J. F. McCrory and Miss F. R. Koch, 5 years.

Cordiner named vice president of G.E.

Ralph J. Cordiner has been elected vice president and assistant to the president of the General Electric Company, it has been announced by Charles E. Wilson, president. Mr. Cordiner has been assistant to the president for the past 18 months, since his resignation as vice chairman of the War Production Board.

Mr. Cordiner was made manager of the Merchandise Department in Bridgeport in 1932. Two years later he became assistant manager of Appliance Sales for G.E. In 1938 he was appointed manager of the Appliance and Merchandise Department, succeeding Mr. Wilson in that position.

The new G.E. vice president is a Director of Allegheny Ludlum Steel Corp.; Carboloy Company, Inc.; Edison G.E. Appliance Company, Inc.; G.E. X-Ray Corp.; Locke Insulator Corp.; Monowatt Electric Corp.; Trumbull Electric Manufacturing Company; Warren Telechron Company; G. E. Credit Corp.; and G. E. Supply Corp.

What the Overseas Man thinks

Back home on leave after thirteen months' service in the South Pacific and participation as a gunner in fifty-five bomb missions, Staff-Sergeant Chester C. Vaughn was welcomed at his home town, Hamilton, Ohio, and at Estate Stove where he formerly worked. During a special broadcast Dec. 13, over station WMOH in support of the Sixth War Loan Drive in Hamilton, Sgt. Vaughn was interviewed. Following is a quotation of two of the questions asked and Sgt. Vaughn's answers:

ANNOUNCER: How do the boys over there feel about the way things are going here at home — or do they have any time to talk about it?

SGT. VAUGHN: There's plenty of time to talk, and as you may expect, there is quite a lot of griping mixed up with it. We hear a lot about the wonderful production job which is being done, but somehow we still don't get the stuff nearly fast enough. That goes for planes and parts of planes, ammunition, bombs and for practically everything we need.

ANNOUNCER: What do the boys think about that? Do they think that it is due to the shortage of transportation facilities?

SGT. VAUGHN: Rightly or wrongly, they feel that people in the shops back home are not working hard enough — that they are too optimistic about an early victory, too ready to let down. I think I ought to add here, however, that I took a walk around the Estate Stove shop a few days ago, and what I saw there convinced me that Estate employees are giving the job everything they've got. I hope that this applies to all the shops in Hamilton, and if it does, I am proud that Hamilton is my home.

New Norge national service manager.

Thurlo F. Johnson, who has been with the Norge Division of Borg-Warner Corp. since 1933, has been named national service manager, it was announced by M. G. O'Harra, vice president and general sales manager.

Johnson entered the company's employ in the manufacturing division, later transferring to inspection. He joined the service department in 1935 as a national field service representative covering all Norge household appliances as well as heating and commercial products. In 1939, he was appointed factory service superintendent in which position he remained until the start of the war, at which time he was assigned to special war production duties. He was promoted to plant engineer in charge of maintenance in 1943, and retained this post until assigned to his present position.

Gas station sales rooms for appliances

If information that has been released through gasoline producers is

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41 YEARS YOUNG

ONE OF THE FIRST FORMED METAL BATHTUBS

In 1904 Ing-Rich manufactured one of the first formed metal bathtubs ever produced in this country. This one-piece unit enameled with Ing-Rich frits is still in daily use, giving its owner complete satisfaction.

Surely, this is the finish that you have been looking for.

When you make your plans for your postwar products, be sure to include Ing-Rich ground coat and cover coat frits for your finish. Remember, years of service have convinced many manufacturers.

ING-RICH
PORCELFRIT
"The Plant Tested Frit"

INGRAM-RICHARDSON MFG. CO.
OF INDIANA • INCORPORATED
FRANKFORT • INDIANA

A COMPLETE ENAMELING SERVICE

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authentic, gasoline service stations may be expected to serve as sales rooms for handling a wide variety of products and appliances, including household appliances and all so-called consumer durable goods items.

Major oil companies are said to have post-war plans for such super station service, with at least one or two companies planning to handle such items as refrigerators, stoves, washing machines, etc.

Tappan elects two new vice presidents

C. V. McConnell

A. B. Ritzenthaler

Election of C. V. McConnell and A. B. Ritzenthaler to fill newly-created posts as vice presidents has been announced by Paul R. Tappan, president of the Tappan Stove Company, Mansfield, following a recent meeting of the board of directors.

Mr. McConnell, who has served as sales manager since 1928, will be in charge of merchandising and sales promotion. Mr. Ritzenthaler, former eastern district manager, with headquarters in New York City, and more recently war products manager at Mansfield, will have supervision over Tappan salesmen.

This election brings to three the number of Tappan vice presidents. The other is W. Hubert Tappan, first vice president.

Battelle plans expansion

An expansion of Battelle Memorial Institute's program of education is being planned, according to announcement by Clyde Williams, director. The program is said to be keyed particularly to returning veterans who can qualify for training as research workers in the sciences.

The Institute feels that thousands of veterans have become aware of the importance of technology from their battlefield experiences and will be interested in scientific or engineering careers.

Battelle, in cooperation with other educational institutions, will, according to Mr. Williams, give qualified veterans the finest possible training in scientific research on the professional level. (The program will be directed at the graduate level of education.)

The Battelle director said, "America has been so busy in the last five years applying the old familiar laws of nature to military purposes that we have had too little time for discovering new scientific laws. Building new post-war industries and products for mass consumption depends on a steady flow of new basic knowledge. Furthermore, this new knowledge is vitally important for national preparedness in the future. . . . "

P.E.I. advertising to architects

The Market Development Committee of the Porcelain Enamel Institute has sent out a special mailing to over 5,000 architects to acquaint them with the advantages of modern porcelain enamel as a logical material for the creation of beautiful and unusual building designs. This mailing is keyed to tie up with the insert in Sweet's Architectural Catalog sponsored by the Institute in the interest of the architectural phase of porcelain enameling.

The plan is to reach the architectural profession at a time when a vast amount of new construction is being developed on the drawing boards. Information is offered as a timely help to architectural designers and engineers.

New vice president & general manager at Clyde Porcelain Steel

Clyde Porcelain Steel Corporation, Clyde, Ohio, announces the recent appointment of Robert C. Douglas as vice president and general manager of the Clyde operations. Mr. Douglas replaces Delmar J. Ramers, who has been on leave of absence for more than a year because of ill health.

Mr. Douglas comes to Clyde from Gulf Oil Corporation in Pittsburgh where, since 1933, he has been an assistant to the general manager, in charge of service station building operations, equipment and plant budget, and as liaison officer between the sales, engineering, accounting and credit departments.

Previous to his connection with Gulf Oil Corporation Mr. Douglas was with the B. F. Goodrich Company of Akron, Ohio. In the late 20's he was head of the Store Development Department for Goodrich, and when that department was discontinued he became assistant manager of the com-

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pany's Retail Store Department, operating Goodrich Company stores and service stations.

Mr. Douglas is a graduate of Ohio State University and Harvard University Graduate School of Business Administration.

Clyde officials have announced plans for a large postwar expansion program and they feel that this new addition to the staff rounds out a well balanced management group, including R. R. Trubey, president; T. E. Stokes, executive vice president; W. E. Punsky, works manager; and C. C. Cleghon, plant superintendent.

Former A-B Stove employee dies

Sgt. (T/4) Max Campbell died February 12 at Aberdeen army hospital, Aberdeen, Md., following an injury sustained at Aberdeen Proving Ground where he was stationed.

Sgt. Campbell was a brother-in-law of Ed Smith, Chicago Vitreous Enamel Product Company, Cicero, Ill. He started at A-B Stove Company, Battle Creek, Michigan in 1925. In 1934 Max was loaned to Edison G.E. Appliance Co., Inc., where he worked under Frank Porter (Inland Steel Company), who was then with the Edison organization. He then returned to A-B Stove, where he was serving as chief inspector in the Armor Plate Division when he left to enter the service in July of 1943.

Annual meeting of Chicago Enamelers Club

The program committee of the Chicago District Enamelers Club reports that arrangements have been completed for holding the Annual Meeting on Saturday, May 26. The meeting will be held in the Lincoln Room (18th floor) of the La Salle Hotel.

While speakers have not as yet been announced, the committee assures members that an interesting program may be expected.

Business at the annual meeting will include the election of officers for the succeeding year. A slate will have been prepared by the nominating committee. The committee consists of R. L. Foraker, Pemco Corporation, Chairman; Fred Doering, Cribben and Sexton Company; and G. G. Hanson, Consolidated Feldspar Corp.

All enamelers in the district are urged to be present.

Sears buys complete control of Newark Stove

T. D. Adams, president of Newark Stove Company, announced recently that Sears, Roebuck and Company, a substantial stockholder of the Newark Stove Company, has purchased complete ownership of the Newark, Ohio, company.

The company will continue on its present war contracts, Adams said, and will continue with its $750,000 remodeling and building program for post-war production of its full domestic stove line.

He said that Newark Stove employees will immediately participate in the employee-owned $68,000,000 profit-sharing pension fund through which the employees own more than 10% of the Sears Company, group life insurance, merchandise discount cards, armed forces employee benefits and group hospitalization plan.

News from Washington

New facilities for hydrofluoric acid

Because of plant breakdowns and other production complications, the output of anhydrous hydrofluoric acid has not met production goals.

As a result, WPB has authorized construction of new facilities to alleviate a serious shortage, the Hydrofluoric Acid Producers Industry Advisory Committee was informed at a recent meeting.

The material is used in the production of Freon-12 for refrigeration, and in the manufacture of aviation gasoline, aerosol bombs, etc.

Supply of sulfuric acid remains critical

A large number of emergency adjustments were necessary in February owing to plant failures, which resulted in loss of production, according to WPB. Large increases in highly essential uses have resulted in reduced deliveries to several end uses.

All steel allocations below requirements for second quarter

Production difficulties, manpower shortages and increasing military demands for steel, aluminum and copper have resulted in a tighter controlled materials situation for the second quarter of 1945 than at any time during the last several quarters, with the result that some war procurement agency production programs may have to be modified, according to WPB.

Steel allocations for the second quarter are below requirements for all claimant agencies — even after review and adjustment by WPB. Drastic reductions have been made in less-essential non-military and export allotments and steps are being taken for temporary curtailment of steel flows for maintenance, repair and operating supplies.

Bolivian tin price increased

The price to be paid for Bolivian tin during the remainder of the basic tin agreement between Bolivia and the United States will be increased from 60 cents to 63½ cents, it was announced by Leo T. Crowley, Foreign Economic Administrator. An amendment to the basic contract, which has been in force since 1940, has now been signed by representatives of the Bolivian producers, the Government of Bolivia and the United States Commercial Company, purchasing agency of the United States Government.

Tin stocks perilously low (Order M-43 Revised)

With Government reserves of tin down to a dangerously low level, the War Production Board has again revised Order M-43 to tighten up on the less essential uses for the metal. In addition, parts of the order have been clarified and new purchase certifications added.

Pointing out that current imports from South America and elsewhere amount to less than 75 per cent of requirements, WPB officials say that Government stockpiles are being depleted at an alarming rate. WPB estimates that as much as two years may elapse after mines in the Malayan States and the East Indies are recovered before tin in quantity may be expected.

Chemical use authorizations simplified

Simplified procedure to obtain extension of authorization for use of allocated chemicals was announced by the Chemicals Bureau, War Production Board.

A single letter may now be written to the War Production Board, Chemicals Bureau, Allocations Officer, Washington 25, D.C., listing all allocated chemicals and allied products for which an extension of authorization for use is requested beyond the limit set by Order M-300, Paragraph (v) or by any other Chemicals-Bureau order.

This simplified procedure applies only when requesting extension of previous authorizations for use and may not be followed when filing any other kinds of applications relating to allocated chemicals and allied products.

Raw materials for organic finishes increasingly tight

Supplies of raw materials required for industrial finishes are not expected to improve during the next few months, members of the Paint, Varnish and Lacquer Industry Advisory Committee were told at a recent meeting, according to a War Production Board report.

Lacquer solvents, generally, with the possible exception of ethyl acetate, will remain critical and further reductions in civilian allocations may become necessary. All important synthetic resins employed by the industry are in very short supply and no improvement is expected in the near future. Phthalic Alkyd resins, already critical, will probably become tighter as a result of increased military requirements. Para phenol and tertiary butyl phenol resins are barely sufficient to care for military requirements. Production of these resins is at a maximum and no relief in supply can be expected.

There is a similar critical situation in connection with rosin modified phenolics, urea and melamine aldehyde resins, and other allied products.

No aluminum for cooking utensils

Because aluminum producers must meet greatly increased military requirements, they will be able to make available only an extremely small quantity of castings, and probably no sheets or extrusions, against the deferred allotments assigned to manufacturers of aluminum cooking and household utensils in the second quarter of 1945, WPB officials reported at the recent meeting of the Aluminum Utensils Industry Advisory Committee.

Price ruling on refractory products

Under certain conditions, manufacturers' and resellers' maximum prices shall be the same for sales to

a particular class of purchaser of fireclay and silica brick refractory products in Colorado, Utah, Missouri and all States east of the Mississippi, OPA has announced.

This action, effective March 9, 1945, provides that resellers are now allowed the same percentage increases recently granted manufacturers of refractory products where these two conditions are met:

1. Sales by the reseller and shipment to the customer are made direct from the manufacturer's plant, and
2. The manufacturer and reseller customarily sell to the same purchaser in the same area at the same price.

Plastic fire brick, insulating fire brick, glass house brick, high temperature bonding mortars and castables are not covered by this amendment.

Allowances possible on packing costs

Sellers of commodities, other than food, to the Government may increase their charges for special packing to meet specified requirements when they perform the packing opera-

to Column 3 →

FLASH

(from Washington correspondent)

Antimony uses curtailed by amendment to order M-112

Ceramic applications of antimony have been severely hit by an amendment to Antimony Order M-112, effective March 14. Not only has the small order exemption been reduced 90 per cent — from 2,240 pounds to 224 pounds — but it is unlikely that manufacturers of ceramics will be able to obtain on allocation more than a small percentage of their former requirements. On good authority it is learned that it will be the policy of the Tin, Lead, Zinc Division to deny about 95 per cent of the previous requirements for ceramic uses in the screening of applications.

Accelerated war demands are the reason for the order. Mounting programs for antimony oxide for flameproofing cotton duck by the Army and for fire-retarding paint by the Navy have cut into available supplies for less essential uses. The critical situation in bearings has also contributed to the shortage of antimony responsible for the tighter control established under the amended order.

tion themselves, OPA has announced.

The increase is a percentage of profit on the packing not greater than the margin the seller is allowed on the sale of the product itself. A limit of 10 per cent on this profit margin, however, is provided.

Number of stove dealers in the U.S.

The total number of registered dealers and distributors of rationed stoves in the United States, as of November 8, 1944, is as follows, according to OPA records:

Dealers	57,127
Distributors	1,439
Total	58,566

No new stove sales agreements (OPA)

Ration Order 9A was amended (Amendments 2 and 17) to permit manufacturers and distributors to continue to observe sales agreements with one or more dealers covering a particular area, if those sales agreements were entered into prior to December 19, 1942 when stove rationing was first started. Sellers are permitted to restrict sales, in those areas,

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PORCELAIN ENAMELED PRODUCTS

Released March 9, 1945 from "Facts for Industry" by U. S. Department of Commerce

January, 1945

Value of shipments of Porcelain Enameled Products for January, 1945 amounted to $3,029,292 as compared with $2,817,743 for December 1944, $2,588,547 for January, 1944, and $2,460,146 for January, 1943. These statistics released today by the Bureau of the Census, Department of Commerce, were compiled from returns of 69 manufacturers for January 1945. These manufacturers together with a number who have discontinued the manufacture of porcelain enameled products, produced approximately 90 percent of the output of the industry as reported at the last Census of Manufactures, which covered the year 1939.

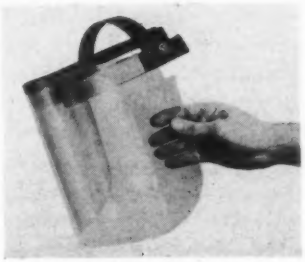
VALUE OF SHIPMENTS

Kind	Number of manufacturers reporting January, 1945	1945	1944		1943
		January	December	January	January
Total	1/ 69	$3,029,292	$2,817,743	$2,588,547	$2,460,146
Signs	16	15,529	10,697	12,836	13,855
Drainboards and tub covers	—	—	2/	2/	558
Table tops (kitchen cabinets, dinette sets, breakfast sets)	3	2/	9,266	5,418	9,976
Stove parts (sold as such)	27	443,282	359,962	294,650	168,953
Refrigerator parts (household and commercial)	15	40,268	30,009	23,306	10,266
Reflectors, including fluorescent reflectors	13	347,170	292,425	255,468	401,344
Store fronts and other architectural porcelain parts (exterior and interior)	2	2/	2/	2/	2,056
Cooking, household, and hospital utensils	23	1,880,154	1,812,245	1,697,709	1,526,216
Washing-machine parts	5	1,536	2/	2/	2,030
All other	34	3/ 301,353	3/ 303,139	3/ 299,160	324,892

1/ Some manufacturers shipped two or more kinds of products; therefore, the sum of the numbers for the respec tive items exceeds the total.
2/ Included in "All other."
3/ Includes data for items which have the footnote 2/ above: e.g. the entry for "All other" for January, 1945 includes data for "Table Tops" and "Store fronts and other architectural porcelain parts;" the entry for "All other" for December, 1944 includes "Drain boards and tub covers," etc.

INDUSTRIAL SUPPLIES AND EQUIPMENT

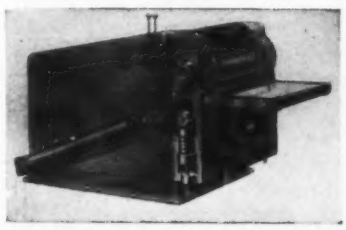
New face shield visors



According to Fred Guilbert, sales manager of the Chicago Eye Shield Company, everyone can be a quick-change artist when it comes to face shield visors. A new snap-fast shield developed by the company is said to make possible visor replacement in fifteen seconds.

The new type shields are available in four styles, including one with open top headgear, one with half-crown headgear and another with helmet-like top and bottom guards. Information available from CESCO, 2300 Warren Blvd., Chicago 12, Ill.

A "Single Wing" Tangent Bender



A new Single Wing Tangent Bender, built by Struthers Wells Corporation is said to smoothly edge bend sheet metal, and to handle practically all work that can be formed on the original Double Wing Tangent Bender excepting the heavier duty jobs such as doming the top of refrigerator cabinets.

The machine is also an improved brake. With proper dies it will bend sheets either with sharp corners, or to any desired radius. It is hydraulically operated and is available in three sizes: No. 3, for bending sheets 36" maximum width by any length; No. 7, for bending sheets 84" maxi-

to Page 54 (Column 3) →

The home appliance picture in post-war Britain

(Continued from Page 15)

if any, financial incentive. But there are other consumers, the most vocal, who are poor correspondents. They are in their element in conversing with neighbors and expressing themselves at club meetings. Many of their ideas never reach the fountain head — the home appliance manufacturer — for this good reason. A contest with money in prospect whips them into writing action. In the contest outlined, fifteen cash prizes, the first the pre-war equivalent of $5,000, and the others of lesser amounts, are being awarded the successful contributors.

'Twixt and 'tween

In contrast to the foregoing attitude — an attitude which proves that the manufacturer is conscious of the pre-war defects of his appliances, and is, with consumer aid, going to remedy them after the War — is the attitude of another manufacturer. Right now he is proceeding on the assumption, as he so states in his advertising, that "electrical appliance users will want to live comfortably *during* the months of development and reconstruction." Furthermore, he promises his dealers that he will produce his pre-war models *quickly* to meet the demands of old and new householders. He advises dealers to "handle what the public knows and will recognize in showrooms." This maker may run into consumer resistance if British women go through with their present intention to wait until new, mechanically-improved standardized models can be produced. It is not, as in the U.S.A., the lure of the alleged wonderful new things to come; it is on a 100% *practical* basis.

Built-in equipment

Another growing British trend is for post-war homes with more built-in equipment, to include electric refrigerator, washer, electric cooker and water heater. If this comes to pass — and with one out of ten British buildings victims of the blitz, there is a vast amount of re-construction to be undertaken — distribution methods will need a radical overhaul. The home appliance manufacturer will be doing a lot of his selling direct to building contractors.

Already one British refrigerator manufacturer intends to be in the vanguard of post-war housing developments. His current advertising campaign advocates a built-in refrigerator in every home. "Not merely *any* electric refrigerator," he advises potential home owners, "but a model with ample food storage capacity for a family of four."

Left to their own devices, contractors of the Jerry-building ilk, will skimp here and there to save a few pounds sterling on this or that part of the house and the equipment. Little will they care if the family finds the refrigerator too small. That is why the manufacturer is campaigning *NOW* to the effect that post-war homehunters should insist on a storage capacity needed to hold the perishable foodstuffs for a family of four.

The future is bright for west coast enameling

(Continued from Page 17)

try, and that close cooperation between enamelers and frit manufacturers will result in superior products. "When a large producer of frits has a dependable market for his products, he can afford to spend money on research. Unified research is bound to uncover secrets of enameling hitherto undiscovered, or lost and forgotten in the past. During the highly competitive postwar era, the enameler will find it to his advantage to confine his efforts to application, and leave frit production in the hands of those fully equipped to turn out a uniform and high grade product."

What about plastics?

It's going to take more than the high-powered publicity given to plastics to scare Joe Penton away from his furnaces and sheet metal shop. "After all, enamel is only a finish — but it's still the best finish available. Plastics lack abrasion resistance, and are susceptible to heat. They may be used in certain applications formerly served by enamel, such as decorative restaurant booths and tables. But where substantial wear is demanded the articles will continue to be enameled.

"There is also the price angle to consider. Plastics are the product of a highly complicated industry. Despite claims and counterclaims, there is no substantial evidence that they will compete successfully with the cost of enameled iron."

When queried about the future of enameling in architectural design, Mr. Penton again stressed the customer service angle. "Our success in this direction will depend upon the production and installation of complete enameled units. Such units will have to be installed as an integral part of the building rather than leave space for their installation later. Enameled products are of a precision variety when compared to normal architectural work. When space is left for their installation, such space seldom fits the product. In the past, this has led to considerable dissatisfaction. Postwar customer service will demand that the enameler follow through to make certain that his units are installed in a highly efficient manner."

Mr. Penton agreed that the war had seriously curtailed the west coast enameling business, not due to lack of demand for enameled products, but because other products were of more critical importance. "But reconversion has its brighter aspects," he continued with his unquenchable faith in the future. "New enameling equipment will be installed. This will result in better products. And better products are the stimulus that puts new blood in any industry's veins!"

Things begin to add up after this short talk with Joe. The neat appearance of the building, the tidy approach takes on added significance. Customer appeal . . . customer serv-

ice — synonomous words, and potent. J. T. Penton of California Enameling is willing to stake a half-million dollars that they'll produce!

While the talk with Mr. Penton was concerned principally with the future prospects for porcelain enameling, it seems in order to report that the company has done a very efficient job of converting their enameling facilities to vital war production work, and that the full weight of the production effort is in the interest of wartime activity.

Facilities of their sheet metal shop are employed in the fabrication of aluminum airframe and wing stiffeners; their machine shop is busy turning out various screw machine parts; and enameling furnaces are used for heat treating aircraft components that they are manufacturing.

New industrial horizons . . . . (Part I)

(Continued from Page 23)

ahead. They lead us to assume that there isn't much that we need to do or that we can do to improve industrial efficiency.

Post-war prices

Now let's get to another reality. Although we know that post-war markets will have to be built on lower-priced goods, every day we hear about how much higher the prices of post-war goods are going to be. Automobiles, it has been said, are to cost 25 to 40 per cent more in the post-war period than the same models cost in the pre-war period. The same story is being told about many other consumer goods. We are confused further by declarations that prices will not be allowed to rise — at least, not much. There are no facts by which we can now say with any assurance what post-war prices will be. But we do know that all the factors which make prices are rising. We know also that no price control system can force anybody to make or sell goods at a loss. And history records that within *two years* after the last war, prices of industrial goods rose 29 per cent.

So there is nothing very encouraging at this moment in the price picture, no matter what you think will happen to controls.

Now what about labor costs? We can start with this solid fact. Since 1939 to July 1944, according to official records of the Department of Labor, average hourly wage rates have risen from 63.3 cents to $1.01. That's an increase of nearly 60 per cent and the war isn't over. Nor are wage increases over. Now what are the chances of getting labor costs down after the war? They are exactly nil! In fact, if I may be permitted a prediction, it is this: *That we shall look back five years hence and wonder how we ever managed to have such low wage rates as we have today!*

Editor's Note:

In an article, "The Machine Age — Blight or Blessing?", in December 1944 Finish, Geoffrey F. Morgan discussed "the effect of labor saving machinery on total employment — or unemployment." The comment and favorable reaction to this article was sufficient to assure us that the subject was one of keen interest to our readers. As a sequel we are presenting this two-part article by Alfred M. Staehle, who discusses current problems related to industrial efficiency.

Mr. Staehle's article is adapted for Finish from a talk before the Materials Handling Machinery Manufacturers Conference held by Westinghouse Electric and Manufacturing Company at East Pittsburgh, Pa.

I am neither clairvoyant nor crazy in hazarding this guess. All I am doing is "looking at the record."

In 100 years of American labor history, the hourly wage rate has increased approximately ten times! Never in the history of American labor has the wage level (hourly wage rates), once it has reached a new high, dropped back — except very temporarily, and then in very small percentages. In those 100 years, there were only three times when wage rates dropped more than one year in a row, and then, with one exception, they never dropped more than 5 per cent. During the Civil War, hourly wage rates rose 45 per cent; during the first World War, they rose 62 per cent.

But watch what happens after wars

Five years after the Civil War, hourly wage rates were 15.5 per cent higher than at the close of the war; and five years after World War I they were 34.2 per cent higher than at the close of the war. So would it be a great stretch of imagination five years after this war to see hourly wage rates 25 per cent higher than they are today?

As a matter of fact, we recognize that labor is perhaps more important in our economy as a consumer of products than as a producer. It will be easier in the post-war period to find workers than it will be to find buyers! There is nothing economically undesirable about high wage rates — so long as high productivity follows.

Therefore, it seems clear that the task ahead to create these large hoped-for post-war markets through the process of getting prices of consumer goods down is not one to contemplate with complacency. Neither is it necessary to contemplate the job with pessimism. The opportunities are great.

In defining the period ahead, I should like to adopt a definition or, rather, an analysis of the post-war period, which was very interestingly made recently by Mr. L. R. Jackson, Executive Vice President of the Firestone Tire & Rubber Company, before a meeting of the American Society of Mechanical Engineers. He said:

"I like to think of three periods:

"The first period — the reconversion period.

"The second period — the catching-up-with-demand period.

"The third period — Which we hope will be a self-sustaining period with high level of production based on current demand."

Read Part II in May Finish

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to the dealers or distributors covered by those agreements. Arrangements made subsequent to that date can not be observed. A manufacturer can not now enter into an agreement with a dealer or distributor and because of this agreement refuse to sell to other dealers or distributors on the grounds that a sales agreement is in effect.

Domestic electric range program for first half of '45

Assignment of final authorizations for the production of domestic electric ranges in the first and second quarters of 1945 to three additional manufacturers was announced by WPB officials at the recent meeting of the Domestic Electric Range Industry Advisory Committee.

The manufacturers and their authorizations are:

	1st Qr.	*2nd Qr.*
Gibson	5,000	—
Norge	1,350	2,000
Roberts & Mander	2,000	4,000

Authorized production of domestic electric ranges in the first and second quarters, including these 14,350 ranges and the 7,500 previously authorized for production by the Malleable Iron Range Co., now totals 21,850. Except for 1,500 three-burner ranges to be made by the Malleable Iron Range Co., in the first and second quarters, all these ranges will be four-burner types.

A 27 per cent reduction in the total amount of carbon steel available for allotment to range manufacturers by the Consumers Durable Goods Division in the second quarter, as compared with the first quarter of 1945, was announced by WPB representatives. They pointed out, however, that the steel available is expected to be sufficient to make as many ranges as can be made with the manpower estimated to be available in the second quarter.

Increased delay in delivery of materials and components was reported by committee members. The committee recommended that WPB establish the 1946 electric range production program at least six months in advance, to enable industry members to place orders for materials and components and obtain delivery as needed.

Production of 7,500 refrigerated display cases authorized

Authorization to manufacture approximately 7,500 refrigerated display cases has been granted under the program announced in October 1944, WPB reports.

Production of 8,000 cases was originally planned for replacement purposes during the 12-month period beginning October 1, 1944. The balance of the program will not be assigned, however, because of the present critical shortage of materials, officials explained.

In general, says WPB, authorizations were made and material allocated with a view to permitting production where it would not require materials, components, facilities or labor needed for war purposes and would not otherwise adversely affect or interfere with production for war purposes.

The following 34 manufacturers whose applications were filed prior to November 15, 1944, were authorized to produce the cases:

American Store Fixture Co., Fall River, Mass.
American Refrigerator Co., Phila., Pa.
E. A. Atherton Co., Worcester, Mass.
Birkenwald Co., Portland, Ore.
Capitol Fixtures and Supply Co., Denver, Colo.
Commercial Refrigerator Co., Cincinnati, Ohio
Crager Refrigerator Co., Milwaukee, Wis.
I. Paul Daemicke Co., Chicago, Illinois
Dason Equipment Co., Brooklyn, N.Y.
East Bay Refrigerators and Fixtures Co., Oakland, Cal.
Fleetwood Craftsman, Inc., Fleetwood, Pa.
Ed. Friedrich, Inc., San Antonio, Texas
General Refrigerator Mfg. Co., Blairsville, Pa.
Girard Store Fixtures Co., Phila., Pa.
Grand Show Case Co., Minneapolis, Minn.
John Harrel and Sons Co., Columbus, Ohio
C. V. Hill and Co., Inc., Trenton, N.J.
The Koch Butcher Supply Co., North Kansas City, Mo.
Kroger Grocery and Baking Co., Cincinnati, Ohio
Jack Langston Mfg. Co., Dallas, Texas
E. S. Matthews, Inc., Spokane, Wash.
Morton Show Case, Inc., Washington C. H., Ohio
McCray Refrigerator Co., Kendallville, Ind.
C. L. Percival Co., Boone, Iowa
Refrigeration Engineering Co., Seattle, Wash.
Royal Store Fixture Co., Philadelphia, Pa.
C. Schmidt Co., Cincinnati, Ohio
Southern Fixture Mfg. Co., Greensboro, N.C.
Tyler Fixture Corp., Niles, Mich.
Wells Birkenwald Co., Seattle, Wash.
Ward Refrigerator and Mfg. Co., Los Angeles, Cal.
Winorke Mfg. Co., Tacoma, Wash.
Zero Plate Co., Dallas, Texas
Jordon Refrigerator Co., Philadelphia, Pa.

30,000 pre-fabs for England

The War Production Board has allotted materials to the Foreign Economic Administration, for the production of 30,000 pre-fabricated temporary emergency houses for England, S. W. Anderson, Program vice chairman and chairman of the Requirements Committee of WPB announces. The houses will be constructed in this country at a cost estimated at $50,000,000 under lend-lease to England.

NHA Administrator says 1,250,000 non-farm houses

The keystone of a housing program to meet the full needs of the American people in the years ahead is teamwork between industry and Government, John B. Blandford, Jr., Administrator of the National Housing Agency, said in an address to the Builders Association of Metropolitan Detroit.

An annual average production of 1,250,000 non-farm houses will be needed during the first ten post-war years to take care of new families, returning veterans, families now living doubled up and to replace half of the clearly substandard housing in the country, Mr. Blandford said

This would be a production about one-third greater than the largest single building year in the past, 80 per cent greater than the average of the 20's and about double the rate of construction in the three years preceding the war.

The Government stands ready to work with industry in the speedy removal of wartime restrictions and regulations as soon as conditions permit, Mr. Blandford said.

"Certainly," he said, "it is to everyone's interest to clear away all needless barriers, and to tap fully our immense housing resources. This is a big job and it's a job for industry and Government to work on together."

Howard Blood raps government pricing policies

GOVERNMENT should not be permitted to extend "discriminatory or socialistic" favors to any types of business, particularly co-operative merchandising organizations, Howard E. Blood, president of the Norge division of Borg-Warner Corp., asserted in a recent address before the American Management Association's finance conference.

He spoke on the overall subject of government pricing policies, which, he declared, in too many cases are "causing businessmen to feel helpless and to stand mute." The Office of Price Administration's "publicly announced profit squeezing intentions" together with the government attitude toward "co-ops" are "the most generally important present phases of government controls in industry pricing."

A farmer as well as an industrialist, Blood transacts a certain amount of business with co-operatives. He explained that he was not opposed to them but felt they should be required to "play the game to the same rules as other forms of manufacturing and distribution" organizations.

On the subject of O.P.A. price policies which would require manufacturers and distribution agents to absorb wage and material cost increases in their postwar products, he said, "When businessmen went to the Congress and the public with appeals for realism in pricing policies, Chester Bowles, O.P.A. administrator, accused them of being 'profiteers and inflationists.'

"Let's get some sense into this question of postwar prices of durable consumer goods, and any other goods similarly mishandled by O.P.A. Price ceilings should be held on such scarce goods at a point which absorbs the unavoidable increases in cost and prevents the inflation of profit margins but does not eliminate nor substantially reduce the profit margins. Under such a general policy business could go ahead with that confidence which must be created if we are to see the bold and swift reconversion we all want. Under such a policy supplies would rapidly increase and the forces of competition would stimulate engineering and plant and process improvement so that the abundance of goods would soon remove any need for price control," Blood continued.

"Any assumption that goods will sell themselves and that the margins of distributors and dealers can be cut is as fallacious as the assumption

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Enamel plant equipment for sale

Equipment for wet and dry process enameling plant. Will sell complete or as individual items — furnaces, mills, pickling tanks, sandblast and all allied equipment. Write Box 445, c/o *Finish*, 360 N. Michigan Avenue, Chicago 1, Illinois.

Cinderella was a glamour girl . . . .

(Continued from Page 20)

wouldn't, but there is a way to make them. After the prize winning designs are selected, the porcelain enamel producers can advertise these designs to furniture dealers and department store buyers through the trade press and when buyers begin asking each manufacturer why he doesn't produce something like those shown in the ads, the reformation will be fast and complete. Furniture manufacturers want to produce designs that sell and sometimes I think they make their best tables without porcelain enameled tops and put the enameled tops on their worst ones, hoping they won't have to buy too many tops. Maybe I'm wrong — you figure it out.

Will women go back on the Range?

(Continued from Page 24)

PHOTO COURTESY ENAMELED UTENSIL MANUFACTURERS' COUNCIL

". . . and that 52.9% do home canning."

leading manufacturers in the gas range business have gotten together with home economists and cooking experts to create standards for what they believe is the finest cooking appliances it is possible to build. And then they have insisted that these gas ranges be pre-tested by unbiased laboratories to make sure they meet these requirements.

I thing this is a grand idea. In fact, it is just like having a board of cooking experts and home economists going along with a housewife when she buys a new range. It is something I wish every industry would follow. It is a sort of guarantee that the housewife is going to get everything she wants in an appliance. Best of all, it means that she can still pick and choose from the various models made by any of these manufacturers and still be sure that she is getting the range that cooking experts designed . . . .

And Mrs. Housewife is going to be willing to pay for that kind of service too, if you show her what it means to her.

→ *from Page 49*

mum width by any length; and No. 10, for bending sheets 120" maximum width by any length.

Manufacturers and designers who work with sheet metal may secure complete information by writing this publication, or direct to Struthers Wells Corporation, Titusville, Pa. Ask for Bulletin No. 57-T.

Thickness gages for nonmagnetic materials

Thickness gages, types A, B & C, for the measurement of nonmagnetic materials are offered by General Electric Co. Type A has a range of 0.00005 to 0.010 inch. (Small head permits use in confined spaces.) Type B has a range of 0.0001 to 0.100 inch (0.0001 to 0.300 inch with a special scale). Type C has a range of 0.030 to 0.750 inch.

This equipment is described in Bulletin GEA-4363. For your copy write General Electric Co., Schenectady, N.Y., giving bulletin number.

Improvements in radiamatics

The Brown Instrument Company, Philadelphia, announces that five major improvements just introduced in Radiamatics make a new compensated pyrometer secure against air and gases up to one pound per square inch gauge pressure at temperatures up to 250° F.

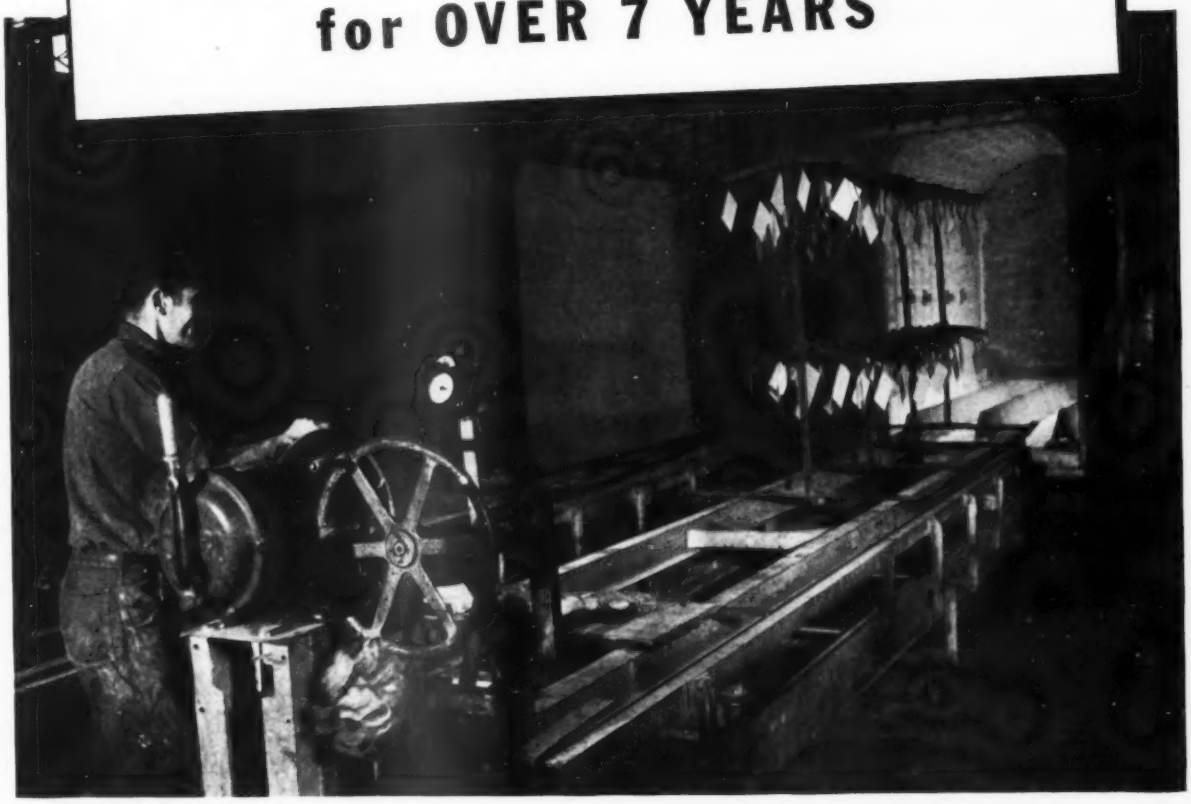
The Radiamatic, product of the Brown Instrument division of Minneapolis-Honeywell Regulator Company, is designed primarily to meet demands of steel mills, metallurgical works, ceramic plants and related industries.

→ **GIBSON** *from Page 31*

ers in July, 1944. While the disclosure of the rate of production or the total number of gliders involved is not possible, the contract is said to be a very large one.

In addition to the glider contracts, Gibson has been manufacturing flaps for B-24 bombers since June, 1943. Other war products include various bombs, parachute flares, and tools and accessories for anti-aircraft guns.

ANOTHER EXCLUSIVE USER for OVER 7 YEARS



Here's an enameling plant that runs everything from "soup to nuts." In its box-type furnaces "Century" frits have been doing their job, and doing it well, for over seven years.

In this typical jobbing plant production is made up of a wide variety of parts — from small name plates to large panels requiring the full height of the 72″ side wall furnace shown here. Weight of metal varies from light gauge signs to extremely heavy gauge pressure and storage tanks. This is the kind of a plant where enamel frits must be designed to "take it."

The complete line of "Century" frits can meet every job shop requirement with assurance of consistently uniform results. Whether you have a continuous furnace or box furnace plant — whether you run one type of work, day after day, or a never-ending variety — you will find the answer to your enamel problems in "Century" time-proved enamels.

Forget about your enamel plant headaches and call on a company that both produces and applies enamel — We know frit manufacturing and we know the enamelers problems, for we operate a modern enameling plant.

Century Vitreous Enamel Company

6641-6661 SOUTH NARRAGANSETT AVENUE • CHICAGO • ILLINOIS